U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-286 974

Occidental Chemical Company Swift Creek Chemical Complex Hamilton County, Florida

(U.S.) Environmental Protection Agency, Atlanta, GA Region IV

Sep 78

PB 286974

United States
Environmental Protection
Agency

Region 4
345 Courtland Street, NE
Atlanta, GA 30308

EPA 904/9-78-020
September 1978

EPA

Environmental Impact Statement

Final

Occidental Chemical Company
Swift Creek Chemical Complex
Hamilton County, Florida

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U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

371

BIBLIOGRAPHIC DATA SHEET

1. Report No. EPA 904/9-78-020

2.

3. Recipient's Accession No. PB286974

4. Title and Subtitle
Final EIS Occidental Chemical Company,
Swift Creek Chemical Complex, Hamilton County, FL

5. Report Date September 1978

6.

7. Author(s)
EIS Preparation Section, EIS Branch, EPA Region IV

8. Performing Organization Rept. No.

9. Performing Organization Name and Address
EIS Branch, Region IV, EPA
345 Courtland Street, N.E.
Atlanta, GA 30308

10. Project/Task/Work Unit No.

11. Contract/Grant No.

12. Sponsoring Organization Name and Address
Same as Box 9

13. Type of Report & Period Covered
Final
XXXXX EIS

14.

15. Supplementary Notes

16. Abstracts

This Final EIS concerns the issuance of an NPDES permit to Occidential Chemical Company for the construction of a new chemical plant in Hamilton County, Florida. The construction of the new Swift Creek Chemical Complex is part of a two-phased plan to increase the superphosphoric acid capacity of the north Florida phosphate fertilzer manufacturing complex. The Final EIS summarizes the Draft EIS and addresses comments received by interested governmental agencies, environmental groups, and concerned citizens.

17. Key Words and Document Analysis. 17a. Descriptors

Phosphate chemical plant
phosphoric acid
fluoride
gypsum pond

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group

18. Availability Statement

19. Security Class (This Report) UNCLASSIFIED

20. Security Class (This Page) UNCLASSIFIED

21. No. of Pages 371

22. Price PCA16

1

EPA 904/9-78-020
NPDES Application Number:
FL 0036226

FINAL
ENVIRONMENTAL IMPACT STATEMENT

for

Proposed Issuance of a New Source National
Pollutant Discharge Elimination System Permit

to

Occidental Chemical Company
Swift Creek Chemical Complex
Hamilton County, Florida

U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Approved:

John C. White
Regional Administrator

September, 1978
Date

1a

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SUMMARY SHEET FOR EIS

Summary Sheet For Environmental
Impact Statement
Swift Creek Chemical Complex
Occidental Chemical Company

( ) Draft
(X) Final

U. S. Environmental Protection Agency, Region IV
345 Courtland Street N.E.
Atlanta, Georgia 30308

1. Type of Action: Administrative (X) Legislative ( )

2. Description of Action: Occidental Chemical Company is proposing to increase the superphosphoric acid capacity of its north Florida phosphate fertilizer manufacturing complex. Increased capacity will be provided by a two phased expansion: Phase I involves modification of the existing Suwannee River Chemical Complex; Phase II proposes the construction of a new chemical plant, the Swift Creek Chemical Complex. The EPA Region IV Administrator has declared the Phase II expansion to be a new source as defined in Section 306 of the Federal Water Pollution Control Act Amendments of 1972.

In compliance with its responsibility under the National Environmental Policy Act (NEPA) of 1969, EPA Region IV has determined that the issuance of a new source National Pollutant Discharge Elimination System (NPDES) permit to the proposed Swift Creek Chemical Complex would constitute a major Federal action. Therefore, this Environmental Impact Statement was prepared in accordance with the requirements of NEPA and the EPA January 11, 1977, regulations: Preparation of Environmental Impact Statements for New Source NPDES Permits (40 CFR 6.900).

The proposed chemical complex will be located at a site adjacent to the existing Swift Creek Mine, approximately five miles west of the existing Suwannee River Chemical Complex. The facility will require approximately 50 acres for the plant and 275 acres each for a cooling pond and a gypsum storage impoundment, with additional acreage for utilities and transportation rights-of-way.

Process units and related facilities will include a phosphate rock transport system, two double absorption contact sulfuric acid plants, a hemihydrate process phosphoric acid plant, phosphoric acid evaporation facilities, a phosphoric acid clarification plant, and two superphosphoric acid plants.

The proposed chemical complex will have a capacity of 500,000 metric tons/year of superphosphoric acid. Sulfuric acid will be produced on-site to satisfy process requirements. Wet unground phosphate rock will be supplied from the existing Swift Creek Mine. By-product steam from the sulfuric acid plants will be used to generate 60 percent of the electric power requirements, with the balance supplied by Florida Power Corporation. A gypsum stack and cooling pond will be provided to store by-product waste gypsum from the phosphoric acid plant and to provide atmospheric cooling for recirculated process water.

In connection with a trade agreement between Occidental and the U.S.S.R., superphosphoric acid will be traded for ammonia, urea and potash. The superphosphoric acid will be shipped from the port of Jacksonville.

3. Summary of Major Environmental Effects

(A) Construction

The proposed Swift Creek Chemical Plant will be constructed adjacent to the existing Swift Creek Beneficiation Plant and settling areas. Building, embankment, storage and borrow areas will be cleared only as necessary just prior to construction. Construction run-off will be controlled during heavy rains by collection of run-off in ditches and clarification to remove suspended particulates prior to discharge to Swift Creek.

During construction, heavily trafficked areas will be wetted to control dusting. Roads within the chemical complex will later be paved. Borrow areas that will not be used for mining purposes will be revegetated to reduce erosion. No archeological or historical sites recorded for the State of Florida are located on the site of the proposed project.

(B) Operation

Operation of the proposed Swift Creek Chemical Complex will increase groundwater withdrawals by approximately 3.7 MGD. Measures taken to limit withdrawals from the Floridan Aquifer include production of 98 percent sulfuric acid and recycling of process and nonprocess water.

Monitoring of water levels in observation wells and supply wells will be undertaken to assess the impact of withdrawals and leakage in groundwater quantity.

Discharge of nonprocess water will increase by approximately 1.6 MGD. Measures taken to reduce nonprocess water discharges include recycling nonprocess water to the sulfuric acid plant cooling tower and to the sulfuric acid plant boilers. Extensive in-plant measures will be implemented to prevent and control contamination of nonprocess water. Process water will be contained in a pond system designed to maintain a surge capacity equal to 1.5 times the run-off from the 25 year, 24 hour rainfall event. Treatment and discharge of process water will be limited to periods of heavy rainfall, i.e., whenever more than 50 percent of the available surge is used. All proposed discharges will comply with applicable effluent guidelines and water quality standards.

The gypsum stack-cooling pond will be designed to minimize seepage to the surficial aquifer. Observation wells have been installed to monitor water quality in the surficial aquifer during operation. No measurable impacts are projected on water quality in the Floridan Aquifer. Deep observation wells and water supply wells will be monitored during operation. The earthen dikes of the gypsum stack-cooling pond complex will be inspected routinely during construction and operation to assure proper maintenance.

Impacts to air quality will include increased levels of sulfur dioxide, particulate matter, and fluorides. Sulfur dioxide and particulate matter emissions will be regulated by Best Available Control Technology to meet New Source Performance Standards. EPA has determined that the operation of the proposed Swift Creek Chemical Complex will not cause a violation of the applicable air quality standards and air quality will not be significantly degraded.

Construction of the proposed facility and associated cooling pond/gypsum stack will impact approximately 650 acres of modified and disturbed pine flatwoods and cypress heads. Increased air emissions of sulfur dioxide and fluorides are not projected to reach levels that would cause extensive damage to vegetation. Aquatic communities will not be adversely impacted from the projected changes in chemical composition or flow characteristics of Swift Creek. The use of the area as a wildlife habitat is not considered to be significant, therefore the proposed complex is projected to have little impact on wildlife or rare, endangered, or threatened animals or plants. The cooling pond/gypsum stack areas may be irreversibly damaged due to the deposition of chemicals which are detrimental to the future establishment of plant communities.

Surface water will remain near the radioactivity levels of natural surface waters in the area. Mitigative measures instigated to control seepage from the gypsum stacks will insure that groundwater contamination by radium 226 is not a problem. The proposed chemical plant will process wet unground rock, reducing drying requirements at the existing rock dryers, and thereby reducing air-borne radionuclide emissions.

The construction and operation of the proposed Swift Creek Chemical Complex will result in additional employment in Columbia, Hamilton and Suwannee

Counties, as well as the State of Florida. Revenue from the collection of state sales and local property taxes are projected to increase based on the proposed expansion and associated growth in population and business. Population growth will result in increased demand for public services and shifts in land use.

4. Alternatives to the Proposed Action:

   A. No-action alternative
   B. Site location alternatives
   C. Process alternatives
   D. Product alternatives
   E. Wastewater treatment alternatives
   F. Air emission abatement alternatives

5. The following Federal, State, and local agencies and interested groups and individuals have submitted comments on the draft Environmental Impact Statement:

Federal Agencies

- Federal Energy Regulatory Commission
- Department of Agriculture
  - Soil Conservation Service, Gainesville
  - Soil Conservation Service, Jasper
- Department of Commerce
  - National Oceanic and Atmospheric Administration
- Dept. of Health, Education, and Welfare
  - Public Health Service

State Agencies

- Department of Environmental Regulation
- Department of Health and Rehabilitative Services

Local and Regional Agencies

- Hamilton County Commissioners
- North Central Florida Regional Planning Council
- Columbia County Planning Board
- Hamilton County Comprehensive Planning Board

Interested Groups

- Columbia County Environmental Council
- Florida Audubon Society
- White Springs Chamber of Commerce
- Sierra Club, Jacksonville
- Florida Defenders of the Environment, Inc.
- Alachua Audubon Society
- Suwannee River Coalition
- Sierra Club, Gainesville
- Suwannee River Citizens Association
- Hamilton County Chamber of Commerce
- Izaak Walton League of America
- Columbia County Bank
- ICAAS, University of Florida
- Lake City - Columbia County Chamber of Commerce

Interested Individuals

Mr. Richard W. Bowles
Mr. Steve Adams
Mr. Mark L. Stevens
Mr. Gilbert McGhin
Mr. Frank E. Philpott
Mr. Charles G. Stefan
Mr. John K. Mahon
Mr. George B. Gibbs
Mr. W. J. Wheeler
Mr. Leo M. Powell
Mr. Dick Walden
Mr. Eugene Woodard

6. This Final EIS was made available to the EPA Office of Federal Activities and the public in September 1978.

CHAPTER I

STATEMENT OF FINDINGS

CHAPTER I. STATEMENT OF FINDINGS

AGENCY DECISION

Based on the comprehensive review of this project in compliance with the National Environmental Policy Act of 1969, EPA Region IV intends to modify the proposed NPDES permit for the Swift Creek Chemical Complex to include a special condition pertaining to sheet flow of waste waters across company-owned lowlands. Because of the concerns expressed, both at the Public Hearing and through written comments, regarding additional pollutant loadings to Swift Creek and the Suwannee River, EPA will re-evaluate waste water treatment alternatives for the new Swift Creek Chemical Complex. Sheet flow of waste waters across lowlands prior to entering receiving waters may provide an opportunity for vegetative assimilation of pollutants and could allow for a reduction in loadings to Swift Creek and the Suwannee River. Therefore, the NPDES permit has been modified to include a requirement that within one year before initiation of discharge, Occidental must submit a plan of study for a test program designed to utilize company-owned lowlands as an additional treatment step. If approved by EPA and DER, the plan will be implemented upon initial discharge from the Swift Creek Chemical Complex. EPA intends to issue this proposed NPDES permit following the expiration of the thirty day administrative waiting period which begins upon issuance of the Final EIS.

NEED FOR THE PROJECT

Increased superphosphoric acid capacity is required by Occidental Chemical Company in connection with a trade agreement with the U.S.S.R. Company studies have established that the most efficient means of providing increased capacity is by a two phased expansion: Phase I involves modification of the existing Suwannee River Chemical Complex; Phase II is the construction of the new Swift Creek Chemical Complex. Superphosphoric acid will be traded for ammonia, urea, and potash.

WATER RESOURCES

Sediment transport to surface waters can be expected at the plant site during construction, but will be controlled by collection in ditches and clarification prior to discharge to Swift Creek. Borrow areas that will not be used for mining purposes will be revegetated to reduce erosion.

During operation of the facility, nonprocess waters will be discharged. Extensive in-plant measures will be implemented to prevent and control contamination of nonprocess water. Recycling of these waters to the greatest extent practicable will further reduce discharge. An experimental program may be undertaken by Occidental, EPA, and DER to assess the effectiveness of reducing pollutant loads to Swift Creek by sheet flowing nonprocess water discharges through a designated lowland area.

Process water will be contained in a pond system designed to contain the run-off from a 25 year, 24 hour storm event. Therefore, treatment and discharge of process water will be limited to periods of heavy rainfall. All discharges of process and nonprocess waters will meet effluent guidelines and state water quality standards.

The gypsum stack/cooling pond will be designed to minimize seepage to the surficial aquifer. No measurable impacts are projected on water quality in the Floridan Aquifer.

AIR QUALITY/NOISE

Air quality in the vicinity of the Occidental plant site will be affected by fugitive dust emissions during the construction phase of the project and by process emissions during the operation phase. Watering of heavily trafficked areas during construction will suppress fugitive dust. The major process emissions will be sulfur dioxide, particulate matter, and fluorides. The use of Best Available Control Technology will allow compliance with Prevention of Significant Deterioration (PSD) requirements. The effects of plant operation on the ambient air quality will be low in significance.

The Swift Creek Chemical Complex will elevate noise levels in the immediate area during both the construction and operation phases. The noise level impact, however, at the nearest off-site residence is predicted to be zero.

ECOLOGY

The two major vegetative communities found at the Swift Creek Chemical Complex site are modified pine flatwoods and cypress heads. The loss of these vegetative communities and associated wildlife habitat due to construction of the plant will not have a significant impact due to the modified and disturbed nature of the site and the abundance of similar habitat in the region.

Increased air emissions of sulfur dioxide and fluorides could potentially adversely impact vegetation. These levels, however, are not projected to reach levels that would cause signficant damage. Aquatic communities will not be adversely impacted by any projected changes in chemical composition or flow characteristics of Swift Creek. The cooling pond/gypsum stack area may be irreversibly lost as future habitat due to the deposition of chemicals which are detrimental to the establishment of plant communities.

ARCHEOLOGY

No sites of archeological or historical interest recorded for the State of Florida will be affected by either construction or operation of the proposed chemical complex.

SOCIOECONOMICS

The Swift Creek Complex project will create economic benefits for Columbia, Hamilton, and Suwannee Counties. These benefits will involve construction employment, permanent employment, purchases of supplies and services, and various multiplier effects throughout the state. Revenue from the collection of state sales and local property taxes are projected to increase based on the proposed expansion and associated growth in population and business. Increased demand for public services and shifts in land use will be minimal.

CHAPTER II

SUMMARY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

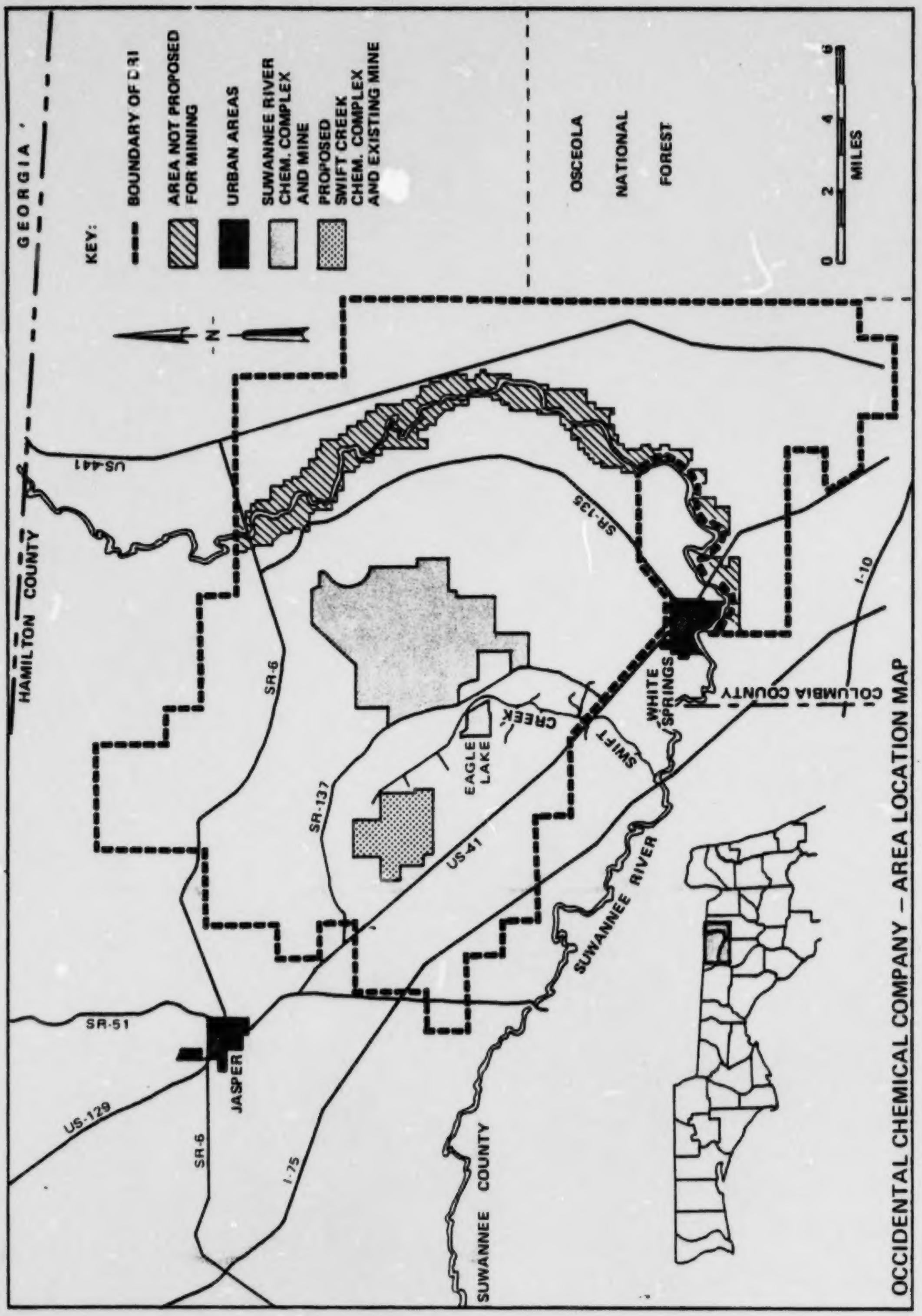
SUMMARY OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

1.0 Introduction

In 1976, Occidental Chemical Company presented EPA with plans to increase the phosphoric acid capacity of its fertilizer manufacturing complex in Hamilton County, Florida. Occidental proposed a two-phased expansion. Phase I involved diverting part of the phosphoric acid already manufactured at the existing Suwannee River Chemical Complex (SRCC) from granular fertilizers to superphosphoric acid. Occidental, as required by its permit, notified EPA of the modifications. EPA then determined that no changes in the permit were required. The modifications will be completed in 1978.

Phase II was for the construction of a new facility to manufacture superphosphoric acid. This new facility (Figure II-1) was proposed at a site five miles west of the existing Suwannee River Chemical Complex and adjacent to the existing Swift Creek Mine and beneficiation plant. On January 21, 1977, the EPA Region IV Administrator declared this Phase II expansion to be a new source as defined by Section 306 of the Federal Clean Water Act.

In compliance with the EPA responsibility under NEPA, the Regional Administrator also determined that the issuance of a new source NPDES Permit would constitute a major federal action. Therefore, on November 29, 1977, a Notice of Intent to prepare an Environmental Impact Statement was issued.



OCCIDENTAL CHEMICAL COMPANY — AREA LOCATION MAP

FIGURE II-1

The production of superphosphoric acid (SPA) calls for two raw materials, phosphate rock and sulfuric acid. The phosphate rock will be obtained from Occidental's existing mines. Wet, unground rock will be conveyed from the beneficiation plant to the proposed chemical complex. Sulfuric acid will be produced on site by burning sulfur in two double absorption contact sulfuric acid plants. The phosphate rock and sulfuric acid are reacted together to form phosphoric acid and gypsum, a waste product. The phosphoric acid is evaporated to concentrate it and clarified to remove impurities. In its final form, the phosphoric acid is concentrated to a high analysis liquid phosphate known as superphosphoric acid, which is used to make fertilizer for agricultural uses.

The potential sources of pollution are: air emissions, which include sulfur dioxide, particulates and fluoride, process water and non-process water.

With these potential sources of pollutants, the major emphasis of the draft EIS was on air quality and surface and groundwater impacts.

1.1 Air Quality

Air quality modeling was undertaken to establish the pre-construction air quality; i.e., the air quality that exists now, and the predicted air quality if the Swift Creek Chemical Complex (SCCC) were constructed. Air quality was projected for the year 1979 when the Complex will be completed. Projected air quality takes into account sulfur dioxide and particulate matter from both existing and proposed sources and is assumed to be representative of air quality for the next ten years.

Annual and short-term concentrations predicted by the modeling, as well as ambient SO_2 and TSP levels are all below the primary and secondary air quality standards established by EPA and the Florida Department of Environmental Regulation (FDER) as shown in the following table.

				Site			
		Standard		Suwannee River Chemical Complex		Swift Creek Chemical Complex	
Parameter	Averaging Time	State	Federal	1977-78	1979	1977-78	1979
SO_2 ($\mu g/m^3$)	Annual	60	80	20	21	7	8
	24-hr.	260	365	254	259	105	147
	3-hr.	1300	1300	1214	1224	35	281
Total Suspended Particle Matter ($\mu g/m^3$)	Annual(1)	60	75	34	34	33	32
	24-hr.(2)	150	260	116	116	77	78

(1) Predicted levels include 31 ug/m^3 background.

(2) Predicted levels include 61 ug/m^3 background.

In addition to the air quality monitoring and modeling done for the draft EIS, a Prevention of Significant Deterioration review was performed by EPA. Under the PSD regulations, a source must pass two criteria in order to be approved. The first criterion is that Best Available Control Technology (BACT) must be applied to all emissions of SO_2 and particulate matter. The second criterion is that increases in ambient air concentrations of SO_2 and particulate matter must not exceed increments established for the Class II area around the Occidental site and the Class I area that occurs in the Okefenokee Swamp.

It was EPA's determination that the annual and short-term PSD increments will not be violated with the construction of the proposed chemical complex. This determination was issued for public comment on January 27, 1978. No adverse comments were received and EPA has approved from an air standpoint the construction of the Swift Creek Chemical Complex with the condition that BACT be used to control emissions.

Although fluoride is not a criteria pollutant under the PSD regulations, fluoride emissions were evaluated in the draft EIS. This evaluation represented some difficulty, however. In a fertilizer complex, there are several point sources of fluorides which can be measured and are regulated by emission standards.

The problem in estimating total fluoride emissions from the chemical complex arises in evaluating emissions from the cooling water and gypsum ponds. Various studies have resulted in estimates of fluoride emissions from these ponds ranging from 0.1 to 10 pounds of fluoride per acre per day.

Because of the uncertainty in establishing an emission rate for ponds, the impact of existing fluoride emissions was defined in terms of: measured ambient air fluoride concentrations, measured fluoride concentrations in grass, observed effects of fluorides on cattle, and observed effects on vegetation.

Except for vegetation growing on the dikes of the existing ponds, there was no evidence of fluoride damage to vegetation, and no significant effects were noted in cattle. Based on the proposed emission rate and pond size, it was concluded that the new chemical plant would result in no significant increase in ambient or vegetative fluoride concentrations.

1.2 Surface Water

In order to assess the impact of the proposed Swift Creek Chemical Complex on surface waters, the water quality in Swift Creek and the Suwannee River was examined. USGS and FDER data were used to assess long-term trends and these data were supplemented by a sampling program in the study area during the preparation of the draft EIS.

Since Occidental began operations in 1965, their discharge has strongly influenced Swift Creek. These waters have has higher concentrations of sulfate, phosphate and fluoride than other natural streams in the area. USGS data at the Facil station on Swift Creek have shown that while these levels are higher than usual, concentrations have remained relatively constant since Occidental began discharging. Biological indicators of water quality, which give a long-term assessment of conditions in streams, have indicated no severe stress to the aquatic system in Swift Creek. Community diversity and biomass are not significantly different from other area streams. All this serves to indicate that the present aquatic system, though modified, has responded to the change from pre-1965 water quality conditions.

In order to assess the influence of Swift Creek on the Suwannee, mass loadings were calculated for Swift Creek and major tributaries of the Suwannee. While Swift Creek contributes the majority of the phosphate found in the Suwannee, most of the nitrogen, fluoride, total organic carbon, and sulfate is derived from other tributaries. Although nitrogen and phosphate concentrations in the Suwannee are high, there have been no indications of nutrient related problems - either in the Suwannee or in the estuary. This is probably because of the highly colored water, the relatively high velocity of the river, and dilution of the Swift Creek waters by the Suwannee.

The Swift Creek Chemical Complex will regularly discharge nonprocess water and rainfall runoff, a total discharge of approximately 2.4 cfs. This amounts to a 10 percent increase in nonprocess water discharge and a 4 percent increase in the total flow of Swift Creek.

Predicted loadings and concentrations were calculated for nonprocess water using estimated flows and concentrations of selected chemical parameters in nonprocess water and EPA NPDES guideline concentrations for the fertilizer industry. A worst case situation was evaluated using low flow conditions and the maximum allowable concentrations of parameters under permit conditions. The worst case situation should occur seldom, if ever, because nonprocess water generally has much lower concentrations than the limits of 25 mg/l fluoride and 35 mg/l total phosphorus.

Process water may also be discharged, but only on rare occasions when the surge capacity of the cooling and gypsum pond is exceeded. This pond will be designed to contain 1.5 times the surge from a 24-hour, 25-hour storm event. Should it become necessary to discharge process water, the water will be treated by double liming before entering Swift Creek. This treatment will meet the EPA guideline of 25 mg/l fluoride and 35 mg/l total phosphorus for treated process water.

Predicted increases in concentrations of phosphorus and fluoride in Swift Creek and the Suwannee River due to the discharge of process water were also calculated assuming both the Suwannee River Chemical Complex and the Swift Creek Chemical Complex were discharging nonprocess and process water simultaneously. The predictions were based on NPDES permit maximum daily averages of 25 mg/l fluoride and 35 mg/l total phosphorus for process water with flows of 4.5 cfs from the SCCC and 6.7 cfs from the SRCC.

Based on the predicted concentrations, the discharge from the proposed facility will not greatly alter the present chemical compositon or flow characteristics of Swift Creek, and no degradation to the Suwannee River is projected. Table II-1 gives the increase in selected parameters in Swift Creek and the Suwannee River under average and very low flow conditions.

1.3 Groundwater

A potential source of groundwater contamination is the seepage of process water from the gypsum stack and cooling pond. To examine this potential impact, a network of monitoring wells was installed at varying depths and distances from two existing stacks and cooling ponds at the SRCC. One of these ponds has been in operation for twelve years and should give a good indication of the impact expected from the proposed chemical complex.

Results obtained from the observation wells at the existing plant indicate that contamination of groundwater is limited in depth to the surficial aquifer and horizontally to a distance of less than 1000 feet from the stack. There was no evidence from any of the data collected to indicate the long range transport of contaminants into the Floridan Aquifer.

Based on measurements at the existing sites, and the fact that the geology of the Suwannee River and Swift Creek sites is essentially the

Table II-1. Changes in Phosphate, Nitrogen, Fluoride and Sulfate Concentrations in Swift Creek and the Suwannee River Due to the Estimated Discharges from the Proposed Swift Creek Chemical Complex (All Values in mg/1)

Location	Phosphate as P		Total Nitrogen		Fluoride		Sulfate	
	Predicted Levels[1]	NPDES Max Limit[2]	Predicted Levels	NPDES Max Limit[3]	Predicted Levels	NPDES Max Limit	Predicted Levels	NPDES Max Limit[3]
Nonprocess Water--Average Flow								
Swift Creek at Mouth	0.2	0.8	decrease 0.2	--	0.1	0.8	4.0	--
Suwannee River at Suwannee Springs	0.01	0.04	<0.01	--	0.01	0.03	0.3	--
Suwannee River at Branford	<0.01	0.01	<0.01	--	<0.01	<0.01	0.08	--
Nonprocess Water--Very Low Flow [m(7,10)]								
Swift Creek at Mouth	decrease 0.5	1.2	decrease 0.5	--	0.1	1.40	5.0	--
Suwannee River at Suwannee Springs	0.25	1.10	decrease 0.04	--	0.23	0.87	8.0	--
Suwanee River at Branford	0.02	0.05	0.00	--	0.01	0.04	0.30	--
Process Water--Average Flow[4]								
Swift Creek at Mouth	--	1.1	--	--	--	1.1	--	--
Suwannee River at Suwannee Springs	--	0.08	--	--	--	0.05	--	--
Suwannee River at Wilcox	--	0.02	--	--	--	0.01	--	--

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[1] Based on estimated concentrations and flows for nonprocess water as discussed in Section 3.2.6.1 and 3.2.6.2

[2] Based on permitted levels of discharge under Federal Fertilizer Effluent Guidelines and estimated flows.

[3] No regulations exist for nitrogen or sulfate under Federal Fertilizer Effluent Guidelines.

[4] No estimates were made for concentrations of chemicals in process water. Discharges of process water are discussed in Section 3.2.6.3

same, the impact of the proposed gypsum stack and cooling pond should be limited to a very localized area and depth immediately around the pond. In addition, the proposed pond will be designed and operated so that seepage is minimized. The pond should have no measureable effect on the Floridan Aquifer.

1.4 Biology and Ecology

The new facility will require approximately 650 acres of what is now pine flatwoods and cypress heads. The area is stressed by past timber management and ongoing mining and is not considered a significant wildlife habitat.

This area contains no critical habitat for endangered or threatened federal species. Due to the already disturbed nature of the site, no rare or endangered species are present in viable numbers and construction of the complex will not affect any terrestrial nor aquatic rare and endangered species.

Aquatic communities will not be adversely affected by the proposed complex. Terrestrial biota could be impacted by air pollution injury to local vegetation, but emission rates are not projected to reach levels that would cause extensive effects. No archeological or historical sites recorded to the State of Florida are located on the site.

1.5 Radiological

Radiological impacts from the proposed plant were also examined. Radiation concentrations at the Occidental site tended to be less than the levels associated with the central Florida phosphate zone. Surface or groundwater contamination by radium-226 will not be a problem.

1.6 Economic

The construction and operation of the proposed Swift Creek Chemical Complex will result in additional employment in Columbia, Hamilton, and Suwannee Counties, as well as the State of Florida. Revenue from the collection of taxes is projected to increase based on the proposed expansion and the associated growth in population and business. The population growth will result in some increased demand for public services and some shifts in land use.

1.7 Alternatives

In addition to examining the impacts of building the proposed plant, several alternatives were considered.

The most viable site alternative was location of the proposed facility at the existing Suwannee River Complex. Major environmental differences include increased air emissions in a smaller area. Also, a new gypsum stack would be required. The most likely site for the new stack is approximately two miles from the plant. This location would require pumping gypsum slurry and process water to the pond and returning the recirculated, cooled water to the plant, which would increase energy consumption and the potential for leaks or pipe breaks over the two-mile length.

The most viable process modification considered was using the hemihydrate rather than the dihydrate process for manufacturing superphosphoric acid. The environmental impacts associated with the two processes are essentially the same.

1.8 Mitigative Measures

The following are measures that will be taken to mitigate impacts:

1. By-product steam from the sulfuric acid plants will be used to generate 60 percent of the electric power requirements.
2. Groundwater withdrawals will increase, but the production of 98 percent sulfuric acid and recycling of nonprocess and process water will limit this withdrawal. Water levels in observation wells will be monitored to assess the impacts of withdrawals.
3. Recycling of nonprocess water will also reduce the amount of water discharged. Extensive in-plant measures will be undertaken to prevent and control spills and leaks that could contaminate nonprocess water. The liquid superphosphoric acid, rather than a granulated

product, facilitates housekeeping and prevents unnecessary contamination of nonprocess water.

4. Process water will be contained in a pond system designed to maintain 1.5 times the runoff from the 25-year, 24-hour storm event. Therefore, treatment and discharge of process water will be limited to periods of heavy rainfall.
5. The gypsum stack/cooling pond will be designed to minimize seepage to the surficial aquifer. Observation wells have been installed and will be used to monitor water quality in the surficial aquifer.

   Deep observation wells and water supply wells will also be monitored. The earthen dams of the gypsum stack/cooling pond will be inspected routinely during operation to insure proper maintenance.
6. Air emissions will be controlled by Best Available Control Technology.
7. Mitigative measures instigated to control seepage from the gypsum stacks will insure that groundwater contamination from radium-226 is not a problem.
8. The use of wet, unground rock will reduce drying requirements at the existing rock dryers, thereby reducing emissions and energy costs.

CHAPTER III

TRANSCRIPT OF THE PUBLIC HEARING
WRITTEN COMMENTS SUBMITTED
RESPONSES TO SUBSTANTIVE COMMENTS

ERRATA SHEET FOR PUBLIC HEARING TRANSCRIPT

Page III-92

UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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In the Matter of:                 :
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     JOINT PUBLIC HEARING         :
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The transcript of the public hearing on EPA's Draft Environmental Impact Statement and the Draft National Pollutant Discharge Elimination System Permit for the Occidental Chemical Company's proposed Swift Creek Chemical Complex, heard in the Stephen Foster Memorial Center, White Springs, Florida, commencing at 7:00 o'clock p.m., Monday, August 21, 1978.

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PROCEEDINGS

MR. HAGAN: Will the hearing please come to order?

This hearing is now in session. Good evening, ladies and gentlemen, and welcome to this public hearing on EPA's Draft Environmental Impact Statement and the Draft National Pollutant Discharge Elimination System Permit for the Occidental Chemical Company's proposed Swift Creek Chemical Complex.

My name is John Hagan. I am Chief of the Environmental Impact Statement Branch, Environmental Protection Agency, Region IV, Atlanta, Georgia. The Regional Administrator, Mr. John C. White, has designated me to conduct this hearing.

With me tonight are Mr. Mickey Bryant, Environmental Administrator of NPDES Permit Section, Florida Department of Environmental Regulation. Mr. Bryant is to my immediate left. Mr. Bryant is representing Mr. Joe W. Landers, Secretary of the Department of Environmental Regulations, and he is co-chairing this hearing in order to receive comments relative to the state certification of the proposed permit under consideration tonight.

Also, appearing with me on the panel are Mr. Gilbert W. Wallace on my right, your left, Environmental Engineer with the Water Enforcement Branch; Mr. Gene McNeill, at the extreme left, your right, at the table, Director of the Phosphate Study Unit. Both of these gentlemen are with the Environmental Protection Agency in Atlanta.

Tonight's hearing is concerned with proposed actions by the Environmental Protection Agency and the State of Florida with respect to the issuance and certification of a permit for construction of new chemical complex to manufacture superphosphoric acid. This project has been proposed by Occidental Chemical Company for their White Springs site.

Occidental has applied to EPA for a National Pollutant Discharge Elimination System Permit, commonly referred to as an NPDES Permit. Issuance of the permit is a major federal action and requires compliance with the provisions of the National Environmental Policy Act, normally referred to as NEPA, and the Federal Clean Water Act.

The National Environmental Policy Act of 1969 requires federal agencies to prepare Environmental Impact Statements on major federal actions which significantly affect the quality of the human environment. Accordingly, the Environmental Protection Agency has commissioned and directed the preparation of an Environmental Impact Statement for this facility.

The Draft EIS has been prepared and distributed. Notice of its availability was published in the Federal Register, Volume 43, Number 137, page 30615, Monday, July 17, 1978.

The Draft NPDES Permit has been prepared by EPA's staff and forwarded to the Florida Department of Environmental Regulation for their certification.

The purpose of this hearing is to receive comments from the public and other agencies on the Draft EIS and on the proposed NPDES permit. These actions are being discussed here tonight in a public forum to encourage full participation of the public in the agency's decision-making process, to development greater responsiveness of governmental agencies to the public's concern and priorities, and to developed improved public understanding of the actions of the Environmental Protection Agency with respect to the new Swift Creek Chemical Complex.

This public hearing is being held pursuant to the guidelines of the Council of Environmental Quality and the regulations of the Environmental Protection Agency with regard to the preparation of EIS's and the issuance of NPDES Permits.

The hearing was announced by public notice on July 21, 1978, and was published in the Jasper News on July 20, 1978, and the Lake City Reporter on July 21, 1978. Copies of the notice were mailed to the agency organizations and individuals on the EPA mailing list and to all persons who received a copy of the Draft EIS.

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It is my understanding within the last few minutes that a news article has run in the Jasper Paper announcing the beginning time of this meeting as 7:30. It is unfortunate that some folks may have gotten the wrong information. However, if they come in a little bit late, please be patient, and we will try not to let them interrupt the proceedings.

As an aside -- and off the record, gentlemen, if you will.

(Whereupon, an off-the-record discussion was had.)

MR. HAGAN: Back on the record, please.

Before we receive public comments, Ms. Andrea Zimmer of Environmental Protection Agency Impact Statement Branch of Atlanta has been the project officer for this EIS, and she will give a brief summary of the project at this time.

Andrea?

MS. ZIMMER: Thank you, Mr. Hagan.

Good evening I am Andrea Zimmer, EPA Project Officer for the draft Environmental Impact Statement on Occidental's proposed Swift Creek Chemical Complex.

In 1976, Occidental Chemical Company came to EPA with plans to increase the capacity of its fertilizer manufacturing complex here in Hamilton County. In order to

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manufacture superphosphoric acid, Occidental proposed a two-phased expansion.

Phase I involved diverting part of the phosphoric acid which is already manufactured at the existing Suwannee River Chemical Complex from granular fertilizers to superphosphoric acid. EPA evaluated the modification proposed for the Suwannee River Plant, and determined that it was an existing source. That is, the alteration to the existing plant was minor enough that the NPDES permit for the plant would adequately cover the discharge from the proposed modification. Occidental has begun the necessary modifications, and these will be completed in late 1978.

The second phase that Occidental proposed was for the construction of a new facility to manufacture superphosphoric acid. This new facility (indicating), as you can see that on the map, was proposed at a site five miles west of the existing Suwannee River Chemical Complex and adjacent to the existing Swift Creek Mine and beneficiation plant. On January 21, 1977, the EPA Region IV Administrator declared this Phase II expansion to be a new source as defined by Section 306 of the Federal Clean Water Act.

In compliance with our responsibilities under NEPA, the Regional Administrator also determined that the issuance of a new source NPDES Permit would constitute a major federal action.

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Therefore, on November 29, 1977, a Notice of Intent to prepare an Environmental Impact Statement was issued. The purpose of the EIS was to provide EPA, other government agencies, and the public with information to insure that appropriate environmental impacts are considered in the decision making process of whether to issue the new source NPDES Permit.

The EIS preparation process utilized the third-party concept. Occidental nominated Sholtes and Koogler Environmental Consultants as the contractor. EPA reviewed, and after a period of public comment, approved Sholtes and Koogler, and several other subcontractors, based on their objectivity and qualifications. Sholtes and Koogler was retained by Occidental, but EPA directed the consultant during the development of the issues to be studied and during the preparation of the draft EIS. EPA retains sole responsibility for the content of this draft EIS.

Briefly, I'd like to explain the format of the draft EIS. The proposed project required a detailed assessment of many potential areas of impact. The preliminary draft was too bulky and complex for general distribution. Therefore, the draft EIS was developed by summarizing the four-volume supporting reports. A copy of the draft EIS was mailed to everyone on EPA's mailing list for this project and to anyone else who requested a copy.

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The four-volume Resource Document was placed in 11 area libraries and repositories so that anyone who wanted to read these documents would find them readily available. This procedure is consistent with recent Council on Environmental Quality directives to reduce paperwork and make EIS's more readable. I hope it will work in this case.

Our purpose here tonight is to listen to your comments about the draft EIS and proposed permit. I don't want to re-hash the entire study, but very briefly I would like to highlight the important issues of the EIS.

The production of superphosphoric acid calls for two raw materials, phosphate rock and sulfuric acid. The phosphate rock will be obtained from Occidental's existing mines. Wet, unground rock will be conveyed from the beneficiation plant to the proposed chemical complex. Sulfuric acid will be produced on site by burning sulfur in two double absorption contact sulfuric acid plants. The phosphate rock and sulfuric acid are reacted together to form phosphoric acid and by-product or waste product, gypsum. The phosphoric acid is evaporated to concentrate it and clarified to remove impurities. Then the phosphoric acid is further concentrated to a high analysis liquid phosphate known as superphosphoric acid, which is used to make fertilizer for agriculture.

The potential sources of pollution are air

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emissions, which include sulfur dioxide, particulates and fluoride; process water, which is the contaminated, recirculated water actually used in the manufacturing process, and nonprocess water, which is water that doesn't come into contact with the process units and would become contaminated only by incidental spills or leaks.

With these potential sources of pollutants, the major emphasis of the draft EIS was on air quality and surface and ground water impacts.

Air quality modeling was undertaken to establish the pre-construction air quality -- that is, the air quality that exists today -- and the predicted air quality if the Swift Creek Chemical Complex were constructed. Air quality was projected for the year 1979 when the Complex will be completed. Projected air quality takes into account sulfur dioxide and particulate matter from both existing and proposed sources and is assumed to be representative of air quality for the next ten years.

Annual and short-term concentrations predicted by the modeling, as well as the ambient SO_2 and particulate levels monitored on this site are all below the primary and secondary air quality standards established by EPA and DER.

Now, in addition to the air quality monitoring and modeling done for the draft EIS, a Prevention of Significant Deterioration review was performed by EPA. Under the PSD

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regulations, a source must pass two criteria in order to be approved. The first criterion is that Best Available Control Technology must be applied to all emissions of SO_2 and particulate matter. The second criterion is that increases in ambient air concentrations of SO_2 and particulate matter must not exceed certain increments. These increments have been established for the Class II area around the Occidental site and the Class I area that occurs in the Okefenokee Swamp.

It was EPA's Preliminary Determination that the annual and short-term increments will not be violated with the construction of the proposed chemical complex. This Preliminary Determination was issued for public comment on January 27, 1978. No adverse comments were received and EPA has approved from an air standpoint the construction of the Swift Creek Chemical Complex with the condition that Best Available Control Technology be used to control emissions. Although fluoride is not a criteria pollutant under the PSD regulations, fluoride emissions were evaluated in the draft EIS.

The evaluation of fluorides represented some difficulty. In a fertilizer complex, there are several processes which emit fluorides. These fluoride emissions can be measured and are regulated by DER aor quality standards.

The problem in estimating total fluoride emissions arises because of emissions from the cooling water and gypsum ponds. Various studies have resulted in estimates of fluoride emissions from these ponds ranging from 0.1 to 10 pounds of fluoride per acre per day.

Because of the uncertainty in establishing an emission rate for ponds, the impact of existing fluoride emissions was defined in terms of measured ambient air fluoride concentrations, measured fluoride concentrations in grass, observed effects of fluorides on cattle, and observed effects on vegetation.

Except for the vegetation growing on the dikes of the existing ponds, there was no evidence of fluoride damage to vegetation, and no significant effects were noted in cattle. Based on the proposed emission rate and pond size, it was concluded that the new chemical plant would result in no significant increase in ambient or vegetative fluoride concentration.

Next, in order to assess the impact of the proposed Swift Creek Chemical Complex on surfact waters, the water quality in Swift Creek and the Suwannee River as they exist today was examined. USGS and Florida DER data were used to assess the long-term trends, and these data were supplemented by a sampling program in the study area during the preparation of the draft EIS.

Since Occidental began operations in 1965, their

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discharge has strongly influenced Swift Creek. The Swift Creek has higher concentrations of sulfate, phosphate and fluoride than other natural streams in the area. Ten years of USGS data at the Facil station on Swift Creek have shown that while these levels are higher than usual, nutrient concentrations have remained relatively constant, and biological indicators of water quality, which give a long-term assessment of conditions in streams, have indicated no severe stress to the aquatic system in Swift Creek. Community diversity and biomass are not significantly different from other area streams. All this serves to indicate that the present aquatic system has fully responded to the change from pre-1965 water quality conditions.

The next question is what effect does Swift Creek have on the Suwannee River? In order to assess the influence of Swift Creek on the Suwannee, mass loadings were calculated for Swift Creek and major tributaries of the Suwannee.

While Swift Creek contributes the majority of the phosphate found in the Suwannee, most of the nitrogen, fluoride, total organic carbon, and sulfate is derived from other tributaries. Although nitrogen and phosphate concentrations in the Suwannee are high, there have been no indications of nutrient related problems either in the river or in the estuary. This is probably because of the highly colored water and the relatively high velocity of the

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river.

Now, a look at the proposed water discharges from the Swift Creek Complex and the predicted impact of these discharges on Swift Creek and the Suwannee:

The Swift Creek Chemical Complex will regularly discharge nonprocess water and rainfall runoff. A total discharge of approximately 2.4 cubic feet per second is estimated. Predicted leadings and concentrations were calculated for this flow using EPA Effluent Guidelines. Now, this should be a worst case condition since the average composition of nonprocess waters usually contains less than 25 milligrams per liter of fluoride and 35 milligrams per liter of total phosphorus.

The process water may also be discharged, but only on rare occasions when the surge capacity of the cooling and gypsum pond is exceeded. This pond will be designed to contain one and a half times the surge from a 24-hour, 25-hour storm event. Should it become necessary to discharge process water, the water will be treated by double liming before entering Swift Creek. This treatment will meet the EPA guideline of 25 milligrams per liter of fluoride and 35 milligrams per liter of total phosphorus for total process water.

Based on the predicted concentrations, the discharge from the proposed facility will not greatly alter the present

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chemical composition or flow characteristics of Swift Creek, and no degradation to the Suwannee River is projected.

A potential source of groundwater contamination is the seepage of process water from the gypsum stack and cooking pond. To examine this potential impact, a network of monitoring wells was installed at varing depths and distances from two existing stacks and cooling ponds at the existing chemical plant. One of these ponds has been in operation for over ten years and should give a good indication of what impact we can expect from the proposed chemical complex' gypsum stacks and ponds.

Results obtained from the observation wells at the existing plant indicate that contamination of ground water is limited in depth to the surficial aquifer and horizontally to a distance of less than 1000 feet from the stack. There was no evidence that any of the data collected would indicate the long-range transfer of contaminants into the Florida Aquifer.

Based on measurements at the existing site and the fact that the geology of the Suwanee River and Swift Creek sites is essentially the same, the impact of the proposed gypsum stack and cooling pond should be limited to a very localized area and depth immediately around the pond. In addition, the proposed pond would be designed and operated so that seepage will be minimized. The pond should

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have no effect on the Florida Aquifer.

In addition to the major environmental impacts that we looked at, several other potential impacts were considered. The new facility will require approximately 650 acres of what is now pine flatwoods and cypress heads. The area is stressed by past timber management and ongoing mining and is not considered a significant wildlife habitat. Aquatic communities will not be adversely affected by the proposed complex and their discharge. Terrestrial biota could be impacted by air pollution injury to local vegetation, but emission rates are not projected to reach levels that requires extensive effects. No archeological or historical sites reported to the State of Florida are located within the 650 acres.

Radiological impacts from the proposed plant were also examined. Radiation concentrations at the Occidential site tended to be less than the levels associated with the central Florida phosphate zone. Surface or groundwater contamination by radium 226 will not be a problem at the Swift Creek Chemical Complex site.

The construction and operation of the proposed Swift Creek Chemical Complex will result in additional employment in Columbia, Hamilton, and Suwannee Counties, as well as the State of Florida. Revenue from the collection of taxes is projected to increase based on the proposed

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expansion and the associated growth in business and population. The population growth will result in some increased demand for public services and some shifts in land use.

In addition to examining the impacts of building the proposed plant, several alternatives were considered ranging from site location to process modifications to pollution control alternatives. The most viable site alternative was location of the proposed facility at the existing Suwanee River Complex.

The major environmental differences include increased air emissions in a smaller area. Also, a new gypsum stack would be required because it is impossible to expand the two existing stacks. The most likely site for the new stack would be approximately two miles from the Suwanee River Chemical Complex, which would involve pumping gypsum slurry and process water to the pond and returning the recirculated cool water to the plant.

This is an increase in energy consumption and an increased potential for leaks or pipe breaks over the two-mile length of the pipe. Also, transporting rock from the Swift Creek site would be an increase in energy consumption. The most viable process modification considered was using the hemi-hydrate rather than the di-hydrate process for manufacturing superphosphoric acid. I'm not going to go into all that because the environmental impacts associated with the two processes are essentially the same.

The following are measures that will be taken to mitigate the impacts of the proposed project:

1) By-product steam from the sulfuric acid plants will be used to generate 60 percent of the electric power requirements.

2) Groundwater withdrawals will increase, but the production of 98 percent sulfuric acid and recycling of nonprocess and process water will limit this withdrawal. Water levels in observation wells will be monitored to assess the impacts of withdrawals.

3) Recycling of nonprocess water will also reduce the amount of water discharged. Extensive in-plant measures will be undertaken to prevent and control spills and leaks that could contaminate nonprocess water. The liquid superphosphoric acid, rather than the granulated product, also facilitates housekeeping and prevents unnecessary contamination of nonprocess water. Reduction or elimination of discharges during critical drought periods will reduce potential impacts during critical low-flow conditions.

4) Process water, as I mentioned before, will be contained ina pond system designed to maintain one and a half times the runoff from the 25-year, 24-hour storm event. Therefore, treatment and discharge of process water will be limited to periods of heavy rainfall.

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5) The gypsum stack-cooling pond will be designed to minimize seepage to the surficial aquifer. Observation wells have been installed and will be used to monitor water quality in the surficial aquifer. Deep observation wells and water supply wells will also be monitored. In addition, the earthen dams of the gypsum stack and cooling pond will be inspected routinely during operation to insure their proper maintenance.

6) Air emissions will be controlled by Best Available Control Technology.

7) Mitigative measures instigated to control seepage from the gypsum stacks will insure that ground water contamination from radium 226 is not a problem. The use of wet, unground rock will reduce drying requirements at the existing rock dryers, thereby reducing air-borne radionuclide emissions and reducing energy costs.

Okay, now, I've talked long enough. I emphasize this is a draft Environmental Impact Statement. It is not EPA's attitude that the Swift Creek environment with its two phosphate mines and chemical complex is a polluted environment that can afford to become a little bit more polluted by the proposed new plant.

Swift Creek is undoubtedly a modified stream, but the creek reflects and has adjusted to the surrounding land use and serves as a buffer to the Suwannee River System.

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The proposed project with its mitigative measures will maintain this system. Therefore, the draft EIS recommends the issuance of the NPDES Permit.

But no draft EIS is complete without the participation of the individuals and community involved. We're here to receive your comments on the merits or shortcomings of this proposed project. I urge you to make any suggestions you might have. We are particularly interested, and we would appreciate any comments you have on the proposed mitigative measures, requirements, and recommendations.

Thank you.

MR. HAGAN: Andrea has shown an awful lot of information about us. There is an awful lot of information in this Environmental Impact Statement. It has been an extremely broad analysis, as you can tell, encompassing air, water, effect of radiation, and process modification, and all of these things.

Andrea, do you think it would be fair to say that combined air emissions from both the existing Suwanee River Plant and the new Swift Creek Plant, when combined together, are not going to violate any air quality standards?

MS. ZIMMER: Yes, and that assuming the air quality monitoring data.

MR. HAGAN: These analyses were done in such a way that the existing facility was taken into ---

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MS. ZIMMER: Right, for the 1979 period, both the existing sources that Occidental has now and the proposed sources of the new chemical complex were ---

MR. HAGAN: The same is true, I assume, for the water commodity?

MS. ZIMMER: Right. All the water discharges considered Occidental's existing discharges from the two mines on the Suwanee River Chemical Complex, as well as the proposed nonprocess or process water.

MR. HAGAN: I will now ask Mr. Gil Wallace, EPA's Water Enforcement Branch, to outline the conditions of the proposed permit.

I want to assure you, while Gil is moving to the podium, that, although no decision has yet been made until the results of this hearing are in, this proposed permit is presented by EPA with the intent that, unless there are objections, it will be issued as proposed tonight.

MR. WALLACE: Mr. Chairman, ladies and gentlemen, my name is Gilbert Wallace. I am Environmental Engineer with the Environmental Protection Agency, Region IV, and I am here tonight to discuss the permit.

On your agenda, it shows Mr. Bill Taylor as giving the speech in this place. Unfortunately, he couldn't make it, so I'll give it for him.

The discharges from this facility have been

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determined to be new sources, these sources falling within the phosphate category . . . (discontinuing)

These sources are as follows: First, process waste water -- no discharge of process waste water is allowed except under the following conditions.

VOICES: Turn it up. We can't hear you.

MR. WALLACE: How is that? Is that better?

Okay, the new source limitations are as follows: First of all, process waste water -- no discharge of process waste water is allowed except under the following conditions: Process waste water pollutants from sulphate storage pile alone, operated separately or in combination, as a water recirculation system, which is designed and constructed and operates to maintain a storage capacity equal to the runoff from the 25-year, 24-hour rainfall, may be discharged after treatment whenever chronic or catastrophic participation events cause the water level to rise to two-thirds' capacity.

Process waste water must be treated and discharged whenever the water level equals or exceeds the mid-points of the service capacity.

After treatment, the following limitations must be met:

The total phosphorus is P, 35 milligrams per liter daily average, 105 milligrams per liter daily maximum;

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fluoride -- 25 milligrams per liter daily average, 75 milligrams per liter daily maximum. Total suspended solids -- 50 milligrams per liter daily average, 150 milligrams per liter daily maximum.

Secondly, the nonprocess waste water -- a continuous discharge is allowed with the following limitations: a total phosphorus of 35 milligrams per liter daily average, 105 milligrams per liter daily maximum; and fluorides, 25 milligrams per liter daily average, and 75 milligrams per liter daily maximum.

And, third, phosphate rock mining effluence -- a continuous discharge is allowed under the following limitations: total suspended solids 30 milligrams per liter daily average, and 60 milligrams per liter daily maximum, a pH within the range six to nine standard units.

Now, under normal operating conditions, the proposed permit will not incorporate all guideline limitations for each type discharge. Instead, permit will propose more stringent limitations after applying treatment of the 140-acre settling pond known as the Section 1008. This lake was constructed for Occidental's use only when liquidity problems were encountered in Swift Creek.

However, its existence does allow for another treatment step which was not usually available to fertilize the plant discharges. The agency feels that a maximum

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phosphate limit of 10 milligrams per liter is achievable from this discharge. Under the proposed permit, the chemical plant is projected to discharge 1.55 million gallons per day nonprocess waste water; in the mine, 12.9 million gallons per day.

This flow, which will occur for several months during the dry season will average 14.45 million gallons per day at a maximum of 10 milligrams per liter of phosphorus. This amounts to a discharge of 1,204 pounds of phosphorus per day. This is the total amount of phosphorus discharge from the plant and the mine if a strict guideline permit is considered.

The discharge from the nonprocess water alone could amount to as much as 1,356 pounds of phosphorus per day.

The proposed limitation for fluoride is 10 milligrams per liter maximum. This is a state water quality standard. The total suspended solids limitation is 30 milligrams per liter average and 60 milligrams per liter daily maximum, and these numbers are effluent guidelines.

The permit allows for the pH to range from five to nine standard units, the background areas to occasionally drop below four. In the event that Section 10 lake is not used as part of the treatment system, the permit requires that guideline concentrations, which I previously outlined,

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must be met for each type of discharge prior to mixing with any other source of waste water, and, in brief, that concludes my presentation.

Thank you very much.

MR. HAGAN: Thank you, Gil.

At this time, I would like to call on Mr. Mickey Bryant, Florida Department of Environmental Regulation, to make any comments concerning the state certification of the proposed plant.

Mickey?

MR. BRYANT: I know everybody in here is hot, and my comments are very brief. So we can start listening to the public on this in just a minute.

On behalf of Secretary Landers and myself, I'd like to welcome all of you here, and on behalf of the Florida Department of Environmental Regulation.

First, I would like to explain our role in this process. The state's role in the federal permitting process is limited to a review of the application and other available information. In this case, we also have this draft Environmental Impact Statement to review. In our review for certification, the Department determines whether or not the proposed permit conditions are sufficient to meet state board qualifications.

In addition, the state may also deal with pollutant

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certification, additional conditions, monitoring requirements, or other criteria that the state determines to be necessary to this permit and for certification.

It is the department's interim opinion that, in addition to the limitations set forth in the draft NPDES Permit, state certification will require that water quality standards be met at serial numbers 001-5 and 001-18. 18 is that the discharge from the section channel lake. 001-5 is discharge from a Weir system that is on the Swift Creek stream level.

In an effort to minimize pollutant loadings of downstream sections of Swift Creek and Suwannee River, in addition to the amplification of the Best Available Technology that is already being considered, the department is further recommending that waste waters be treated in the greatest degree possible prior to reaching the federally designated points of discharge.

With this objective in mind, the state is recommending that the company sheet flow their waste waters across company-owned lowlands before allowing any discharge to enter waters of the state's. This would provide an opportunity for vegetative assimilation of waste-water pollutants and could allow for overall reduction in the loadings of Swift Creek and Suwannee River, a further reduction of loading.

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The state's final position on the certification will not be formulated until after receiving and reviewing public comments provided in tonight's hearing.

Thank you.

MR. HAGAN: Thank you, Mr. Bryant. We appreciate the efforts the State of Florida has made in working with our people on this permit.

You may know that the state is well along in their efforts to obtain delegation of the NPDES Permit program, and we appreciate Mr. Bryant's participation tonight and DER's interest in this particular permit.

We just heard some folks come in since the meeting started. We apologize for the mix-up in the announcements in the paper. If any of you happened to get the wrong information, all I can say is it wasn't meant to be that way, and we are glad to see you joined us late in any case.

Now, before we proceed any further, I would like to ask anyone here who has not already registered with one of these yellow cards (indicating) to please do that before you leave. We want you to register so that we can have a record of those that are in attendance, and, also, so that we can send you the notice of the final determination on this permit.

Ms. Lankford is at the registration desk right over here (indicating) and at the door, and she will take your

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registration card. If you have not already registered, and if you wish to make a statement tonight, please register at this time since the names will be called from the registratio cards.

An agenda of the meeting was available at the registration desk as you came in and a limited number of copies of the draft Environmental Impact Statement are also available for those who have not received copies.

I might say at this point that the draft NPDES Permit is also included in the EIS.

This hearing will be conducted informally, and both oral and written comments will be accepted. Any and all persons present and wishing to make an oral comment or to submit a written comment which is germane to the subject of this hearing will be afforded an opportunity to do so. If you have a written statement which will accompany your oral presentation, I ask that we be given a copy of the written statement prior to your oral statement.

If you have a lengthy statement, I would ask that your oral presentation be a summary if at all possible. Oral presentations should be limited to five minutes. I hate to do that because I know there are a lot of folks here that came that have things to say. I have 21 registered speakers and two maybes, and, in the interest of time, I would ask that oral presentations be held to five minutes.

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(Laughter)

MR. HAGAN: Just so that there won't be any misunderstanding about that, if you have a written statement, and can summarize it in your oral presentation, the written statement will be included in the record as if it were read in its entirety.

The rules of our game here are fairly simple. Members of the hearing panel may ask questions of any persons presenting an oral comment when it is felt that a question is necessary to clarify the nature of the particular comment. However, the audience will not be permitted to ask questions of the persons who are commenting for the record.

As we proceed, I would like to ask that each person making a statement come to the podium, state his or her name, and the interest group or organization which you represent. I might also caution you as you come to the podium to watch out for the wires. We are definitely wired for sound tonight. There are a number of wires on the floor. So, please, we don't want anybody to trip and hurt themselves.

This hearing is being recorded for future transcription. If your oral statement is a summary of a more detailed written comment, the written comment in its entirety will become a part of the record in addition to all written and oral statements submitted this evening.

The comment period on the draft EIS will remain

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open until August 31, 1978, and allows the submission of further comments. We will hold the written record of this hearing and other comments received as a matter of public record at the Regional Office in Atlanta. Written comments should be addressed to me, John Hagan, at the address shown on your agenda sheet.

I have not received any indication of any federal or state elected representatives who are with us tonight. Do we have any state or federal elected representatives in our audience tonight?

(No response)

MR. HAGAN: All right.

At this time, I would like to recognize Mr. Wes Atwood who will be speaking on behalf of the applicant, Occidental Chemical Company.

Mr. Atwood, would you come forward now, please, sir?

MR. ATWOOD: Good evening. I am Wes Atwood. I am Occidental's Senior Process Engineer on the project that we will be discussing tonight.

In one way or another, process-wise, I have been involved in this for many years. Now the EPA and DER representatives have described the regulatory process and what superphosphoric acid is. We are making this product to satisfy our obligations associated with a trade agreement

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with Russia.

I think many of you have heard about this. And, essentially, we are trading this superphosphoric acid, which we call SPA, for other fertilizer ingredients that are made from natural gas, and another that we currently import to the United States, and these ingredients are ammonia, urea, which is a nitrogen, and potash. We are exchanging one of our natural resources that we have a lot of for fertilizer-related products that are made from natural gasses, which we don't have a lot of.

Now, Andrea Zimmer of EPA has explained the environmental review process, and I think you can see that it has been a very long, involved one. We have very carefully reviewed and evaluated the findings of EPA's consultants and this proposed permit that Mr. Wallace explained to you.

The permit, as proposed, is acceptable to Occidental. The draft EIS, Environmental Impact Statement, has been reviewed by a lot of people and by a lot of agencies all over. EPA has received many comments directly -- I know it -- and we, too, have received a number of questions and comments by quite a few people many of whom are here tonight, and we appreciated that exchange of views although we didn't always agree.

We have spent a long time gathering information that has been required for this project, information required by a number of regulatory agencies for the issuance of all the permits that we need. We are finally here to receive the comments on the 14th permit, and final permit, necessary to construct this facility.

We have viewed this environmental review process as an education to us and as insurance to the agencies that this project is environmentally sound. We are looking forward to hearing your comments this evening.

MR. HAGAN: Thank you, Wes.

Mr. Bill Peters?

While Mr. Peters is coming to the mike, we will take about a two-minute break for Stephanie to change tapes. Off the record.

(Whereupon, a brief recess was called for and taken.)

MR. HAGAN: Would you come back to order, please?

A VOICE: May I ask is it possible to get some air-conditioning in this place? It's criminal to have us sit in here like this.

MR. HAGAN: Is the building maintenance man in the audience somewhere?

A VOICE: Yes, sir.

(Laughter)

MR. HAGAN: Is there any way we can get some more

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cool?

A VOICE: No, sir. Our compressor has been out on us.

A VOICE: Thank you very much.

MR. HAGAN: I'm sorry.

MR. PETERS: Good evening. My name is Bill Peters. I am currently Chairman of the Columbia County Environmental Council. I am also research forester, so I have some scientific brain to speak about what I am going to say.

First off, I would like to thank Occidental for the trip they sponsored for the Environmental Council this past Saturday. It was quite interesting, and they are very generous in what they have done, and to thank the EPA and the DER for holding this hearing so that we can have a chance to speak.

I will not cover much said about water quality or water communities because that's going to be covered by other qualified personnel. However, I have a question to ask of both EPA and DER and their water research permits, and this is why is the pH set at a range from five to nine? The natural waters are all acid in this area. From the US Geological Station at Benton, we have a pH range from 3.5 to 6.2, with most of the time pH ranging from 3.5 to 4.5. This is above range of discharge from anyplace.

After flowing through limestone beds and coming

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to White Springs, the pH ranges from 3.2, which is very acid, to 7.2, which is just above neutral. The pH usually falls between 4 and 5, which is still quite acid. At Suwannee Springs, which is below the discharge in Swift Creek -- and this is in the past three or four years -- the pH has ranged from 3.9 to 7.2, usually in the upper fours and lower fives.

There's nothing until we get to Wilcox, quite a ways down the river, before we get to a pH that is near neutral, pH from 6.4 to 7.2.

Speaking to several people at Occidental, they had mentioned that natural test organisms used for testing water quality could not live in the Suwannee River water, but they could live in the Swift Creek water. This means that the Swift Creek water is nowhere near comparable to Suwannee River, and how this affects the river other ways, other people will point out.

We, as members of the Columbia County Environmental Council, would like to see the water quality increased. As far as reclamation of the lands are concerned, Occidental appears to be filling the state requirements. There is quite a change in wildlife. New species have increased greatly; some have decreased and disappeared.

I have seen the reclamation efforts and have been

T2 in the area at least three times, and, with that type of

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area, you are going to expect a great increase in the number of species of animals to be found. I was surprised that there was no an increase in anything other than birds. I looked at the statistical evaluations and saw the EIS statement, and this is in that summary, and, as far as I am concerned, this physical evaluation is meaningless. When you have a variation as great as they had in these communities, they had far too many samples to be of any value.

Working as I do in research, I have found many times I have had to go back and do things again because I did not have enough samples. I feel this is the case right here.

Looking at these species again, I think we can look more by pulling the purpose for species by excluding birds. Now, birds increased from the number of species seen from 64 to 84 -- increased greatly in number, especially aquatic birds. We would expect this because they have already been established. You also have a clear and open area.

You would expect to see more mammals because of the same clear area. However, there is a decrease in the number of mammals sighted from 28 to 21 species. There is a tremendous decrease in reptiles from 33 to 10, and there's a decrease in amphibians from 16 to 11. This, again, is surprising because you have an aquatic area. In both land

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and water you expect to see amphibians. So, something is affecting the habitat there that people are not recognizing at this time.

We go to the summary and look what we said about endangered species. There were three mammals sighted in natural areas in this general area. In mine areas, it's only one. Reptiles -- there were three. Rare, endangered reptiles sighted in mine areas -- there's only one. No endangered amphibians were sighted near their pond. Two rare, endangered fish are in the natural communities. They are not in Swift Creek.

T 6

Birds -- there were only 11 species in the natural communities. However, there were 16 in the mine lands, so here is where you have an increase. You total all of them together at one time, it looks pretty good. You start looking at the individuals, you start questioning what's happened.

However, you would expect many changes because of the change of habitat, but not all. I agree with Wes that there is a gain in energy from the trade with Russia, and, if the water quality can also be increased, we could more easily accept the permit conditions.

Finally, since they are trying to cut down the time, I am trying to cut this down, too. I'd like to reserve the right to speak at the end of this meeting to

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offer a proposal to DER, EPA, and Occidental.

Thank you.

MR. HAGAN: Thank you, Mr. Peters.

Mr. Frank Sedmera?

MR. SEDMERA: My extension cord that I have rigged for this presentation is being used over there (indicating). I'm going to talk without the PA system. I don't believe I need it. Agreed?

A VOICE: I can hear you all right.

MR. SEDMERA: Okay. A five-minute summary of a 20-minute presentation.

MR. HAGAN: We appreciate that.

MR. SEDMERA: We also would like to -- I'm speaking from the Columbia County Environmental Council, I should say. I'm Director for Natural Systems. We also would like to, again, thank Occidental for the very gracious field trip they allowed us to take this past weekend. They were very cooperative.

We are active in this issue because we want to be sure that the Suwannee River is protected. We do not believe that Occidental needs to shut down operations in order to do that. We do believe that Occidental can continue to operate, but they do need to make some significant changes in that operation if the Suwannee is to be protected.

There are four main points that I was going to

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make tonight and which I made in the written comments. First, we were going to show that Occidental has not even come T 7 close to meeting the 1974 permit conditions, contrary to what Occidental has been assuring the public for a number of years. We base that contention on calculations made both in the EIS itself and the calculations that we also made using independently-derived USGS data.

Here are the calculations (indicating). I don't have time to go through them.

The second point that we were going to make is that we were going to discuss water chemistry data in what we call layman's language because the third thing we were going to do was to discuss the water chemistry data and set the stage for yet another presentation by a qualified biologist who is going to use data in the Environmental Impact Statement which will show that, indeed, Swift Creek is biologically stressed and in trouble.

We probably would not want to use the word significantly stressed, but certainly stressed contrary to what the EIS concludes.

The fourth thing that I was going to show -- I was going to point out the need for more on-site verification of what is actually happening on the Occidental site, and T 8 we have data ready to discuss with the public to show that there is a need since the reports that we received through

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the Freedom of Information Act that Occidental has been filing over the years really bear little resemblance to the reports that the USGS has been submitting also over the years on Swift Creek.

That is what I was going to do in approximately 20 minutes. There's no way I can do it in five minutes. It is done in the written statement, and I would be glad to discuss that with people after the hearing at other times.

Thank you very much.

MR. HAGAN: Thank you, Frank. I appreciate your efforts to summarize this, and we will go over the entire written statement and your calculations very carefully.

Mr. Richard W. Bowles?

(No response)

MR. HAGAN: Mr. Bowles?

MR. BOWLES: I'm speaking here strictly as a private citizen. I'm representing no one except myself. There is no doubt that the Environmental Protection Act was set up by Congress with the intent that the environment be protected.

Now, I am struck here by the fact that we are not talking about whether or not the Suwannee is going to have poisons dumped into it. We are talking only about how much. Now, if I had, on my way up here -- if I pitched a tin can out the window of my car, and a state trooper had

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noticed it, he would have stopped me and given me a citation. He would not have asked me how many tin cans I threw. He would not have said, "Well, now, just one tin can is all right as long as it doesn't get so thick that the people behind you are hampered by it. It's all right."

He wouldn't have said that. The fact of pollution is the key issue here, and it would seem to be behind us. I don't quite really understand that.

Now, we have a beautiful river that belongs to all of us into which a private company is going to dump various poisons. The supply of phosphates worldwide is one of the most critical shortages faced by mankind. My friends tell me that phosphates are more valuable to the ultimate survival of mankind than all the oil of the Middle East. It will be used at any price.

There is no sensible reason why the cost of cleaning the poisons out of the effluence from phosphate mining by this or any other company should not be borne by those producing it and those buying it. The product will sell. It is in critical world supply.

As the presentation earlier was made, it was pointed out that figuring 12 million gallons per day of effluence with 1,200 pounds of phosphorus per day, if you just multiply that out quickly -- and I am certainly not a mathematician -- but multiply the phosphorus by four to

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get the phosphate, roughly. That's roughly 4,816 pounds, roughly 2.4 tons, 365 days a year. That is 876 tons of phosphate that we are talking about here.

Now, that's a lot of tin cans, just a lot, and I don't think that the private citizen should expect to be responsible for messes which are made by others any more than -- that is, I'm on the side of the state trooper who was going to say, "Now, you can't do that."

Thank you.

MR. HAGAN: Thank you, Mr. Bowles.

Mr. Steve Adams?

MR. ADAMS: I'm going to have to use an overhead. May I borrow yours?

I need a service line projector . . . (discontinuing)

Would it be more convenient if I went ahead?

MR. HAGAN: We don't mind, Mr. Adams. We would appreciate that.

MR. ADAMS: Okay. Let me just set these back out of the way, if I might, over here.

MR. HAGAN: Mr. Archie Carr?

MR. CARR: Mr. Hagan, Mr. Bryant, gentlemen, I am Archie Carr III. I am special assistant to the President for Science, Florida Audubon Society. We're a conservation organization composed of approximately 35,000 Floridians, and our headquarters is in Lakeland, Florida.

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For the past year, I have devoted a great deal of my time on the staff of Audubon studying the Florida phosphate industry and attempting to soften the impact on the development of strip mining on Florida's environment. I have worked more than I have cared to work, actually, with this industry.

I have a certain amount of rhetoric that I wanted to go through to develop the philosophy of conservationists, but I think it has been quite well established here tonight. A homily-similee was given to me last night by an acquaintance of mine that in some cities it's against the law for dogs to be taken out on a lease and allowed to produce effluence on the sidewalk. In other cities it is not against the law, and, yet, in most cities, it's offensive to the people, and, somehow, that is related to what is going on here tonight.

Now, there are two items that I would like to address in my time related to the Environmental Impact Statement. First is the discussion of phosphate on energy conservation presented in the summary document, which is Section 3.44, beginning on page 179. This statement speaks the question -- always stressing future domestic agriculture by exporting finite supplies of phosphates today, and is this process consuming scarce reserves of phosphorus fuels?

The Occidental management cooperated with the

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third-party contractor in drawing this EIS so that I judge they are in general agreement, and we heard tonight from Mr. Atwood that the Occidental Company is ready to accept this EIS and NPDES Permits. I am encouraged by the simple presence of this section discussing resource conservation in the EIS. It is the first tacit admission that I know of by any phosphate company that the subject is worthy of discussion.

That's progress, Mr. Hagan. However, the session has some intellectual weaknesses. It strives to leave the impression upon the reader the company will trade its SPA, superphosphoric acid, to Russia in exchange for potash, for urea, and anhydrous ammonia, which are all, of course, fertilizer components. Urea and ammonia require far more energy to produce than SPA.

Quantities of potash involved in the exchange are such that the US will experience a substantial energy savings because we will not have to expend our own natural gas to make ammonia, but we will make it -- we will trade it for phosphate, phosphate for the ammonia that will be made in Russia, that is.

I sense that there are many exceptions, these to develop this optimistic case, that can be challenged. The real issue, however, is somewhat peripheral to the central NPDES issue, so I have not explored that in great

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detail. One example is the potash segment of the deal. Currently, our major source of potash is a substantial deposit found in Canada.

The EIS suggests the US balance of trade will experience a benefit by obtaining potash from Russia through the Occidental deal. It is not clear to me why this is such an attractive arrangement. The Canadians have a lot of potash. They are about as close to the United States as a country can get, and they are very good friends.

The Russians on the other hand, are very far away and they are not as friendly. Perhaps, the benefits of the potash segment of the deal could be more lucidly described in the final Environmental Impact Statement.

T9

A more substantial criticism to Section 3.44 is that it may be that none of the benefits accrue to the United States at all. In the resource documents that accompany the summary statement, the contractor outlines three options that are available to the Occidental Company. One, indeed, all of the ammonia and the urea will be returned to the United States .

Two, a fraction of the proposed exchange may be returned to the United States, the remainder used abroad. Three, all of the urea and ammonia may remain abroad, and the US will not experience the benefits suggested in the summary statements. Which alternate is chosen will depend

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upon international market demand, and that's okay, but I suggest the summary document requires the inclusion of all three options so as not to mislead the reader into anticipating the certainty of positive rewards for the United States.

Given that the three trade options are still open so far as I am aware, then, the entire section requires a provision if it is to be of any value to the reader at all.

Let me turn now to my final point, pollution of the Suwannee River. Environmental Impact Statement indicates that the Occidental Company is ready to invest substantially in real environmental protection. Ms. Zimmer has described some of these very elaborate and very costly techniques and approaches to environmental protection. This $20 million deal attained with the USSR -- one would indeed expect that significant funds could be spent here in Hamilton County to protect future options.

So, by and large, I am content with the Swift Creek proposal. I only wish the Suwannee River Complex could be made equally clean. However, the issue of effluence released in the Suwannee River causes me special concern. My problem is that those pollutants, nitrates, sulfates, phosphates, fluorides, plus lesser trace elements that will be added to the Suwannee in addition to those already entering through the Suwannee Complex will be -- and there is no evidence that they will do biological damage, and I attribute the absence of biological problems to the river to the volume and flow of the Suwannee. Pollutants are diluted and transported so rapidly the river channel itself does not experience that impact, or so it seems according to our present knowledge.

The river is, and will continuing doing, free service for the company externalizing waste disposal. However, as an ecologist and as an officer of Florida Audubon, I must consider the following points when evaluating the concept of effluence in the Suwannee River:

Number one, pollution has a habit of plaguing us in the most unexpected fashion. Fooling around with Mother Nature results more often than not in a resounding slap when and where we least expect it. Therefore, a dependable principle for me is that no pollution is better than little pollution.

Number two, the phosphate industry will be in the Suwannee-Swift Creek Basin for decades. Each day, several hundred pounds of assorted pollutants will be discharged for thousands of days. If it doesn't hurt the Suwannee, the sustained discharge [illegible] in the Gulf of Mexico, probably, someday, somewhere. We will almost certainly find some reason to regret the permitted discharge in the Swift Creek Complex.

Number three, there will be more plants, possibly more phosphate plants, possibly plants of other industry, and all desire to take advantage of the free services of the Suwannee River. Cumulatively, tolerance of the river's contaminants can be overcome. We must draw the line. Why not draw it now?

Number four, the Swift Creek Complex is still in the blueprint stage. Now is the time to design for minimal discharge.

Number five, my people, the rank and file of Florida Audubon, will never be convinced that pollution is benign. They are probably right in the long-term, but, more importantly, in the short-term, their views are a political fact of life that I and the Occidental Company will have to live with.

Number six is you have witnessed and will continue to witness tonight the Suwannee is a loved river. It is loved by the people. I think you will agree that it is improbable with a river as big as this can still be in such remarkably good shape after so many generations of white man's occupation in the peninsula of Florida. It's a beautiful river, an historical river, a productive river. It's a treasure for this state and for this nation. It's only through the concerted efforts of major conservation groups in Florida the river will receive formal recognition by the United States government and further protection by the State of Florida, having the advantage of a river such as the Suwannee, not like the Mississippi, with its dead pelicans and its carcinogenic waters, not like the Church River, certainly not like the vile Hudson up in New York. A river like this should be managed with all the caution, conservation, care and love that can be brought to bear.

Florida Audubon Society will stand for no less. We ask the Occidental Company to recognize these values, to permit the minimal discharge of the Swift Creek Complex, liberal legal standards notwithstanding. We believe it can be done. e certainly believe it's worth doing.

y recommendation to EPA and DER is to investigate the possiblity of zero discharge in the Swift Creek Complex in more deth before the NPDES Permit is granted. I make the recommendation on behalf of the Florida Audubon Society in full recognition of the absence of legal or known biologicallimitations to the proposed Swift Creek discharges. In good conscience, I cannot recommend otherwise.

hank you very much.

R. BRYANT: Thank you, Chuck. We appreciate that statement from Florida Audubon.

r. Adams, are you ready to go?

R. ADAMS: My name is Steve Adams. I am a resident f Lake City. I represent no group here. I represent only myself. I had about 20 minutes' worth to present. Since we got cut back to five, I'm going to take what I consider to be the most outstanding point in this EIS statement, the statement being that this EIS -- that Swift Creek has not been significantly affected.

T11

I disagree with that for any number of several reasons. Can we have some power on this one (indicating)? Is it plugged in back there? Not this one, the one that goes back there.

MR. HAGAN: I'm really not through with the PA system.

MR. ADAMS: Okay. I can speak loud enough to get by. I do need this.

Since this is not working, may I go ahead and disconnect it?

There's certainly no power here. Let me try this one. Still showing no power.

MR. HAGAN: Go ahead and disconnect the PA system temporarily.

MR. ADAMS: Okay. Is this it here (indicating)?

The Beck's Biotic Index --

the idea behind the index is to find the organisms that they find in that water and divide them up into classes --

Class One for intolerance. Class Two's are slightly tolerant. Class Three's are moderately intolerant. Class Four are tolerant, and Class Five's are very intolerant.

Anything that shows 70 percent or better in Class One or Two is good water. Anything that shows as much as 60 percent in Class Three or more is stressed. The higher this figure, the more stress. By the time you get over here with 70 percent of the organisms occurring here or better, you are into the Walsh pollution range.

For example, in water like this what you find is rattail maggots; about the only thing besides poisons that kills rattail maggots is iron in the water. The definition of too much iron in the water is taking a hammar and reach down and hit him on the rock that he is on.

(Laughter)

MR. ADAMS: Okay. Using this particular one , which is . . . (discontinuing) . . . to show you a Beggs Biotic Index, if you look at these groups as you got it in two, you do see it as an index number of 14, which is a high number.

If you look at the percentage of organisms in each class, you've got a whole new picture. For example, over in group one, you've got .28 percent. In group two, you find 1.35 percent, or a total in groups one and two of 1.63 percent.

Look at group three. Group three shows 58.3 percent of the showing in group three. Now, then, if you look at this one, which happens to be from -- what's that, Rocky or Roaring Creek? -- whichever. If you look at this particular one, you divide them up into classes, you get twelve, a lower number. This ought not to be as great, but look at groups one and two -- 4.6 percent in group one, 76.2 percent in group two. Total -- 80.8 percent in group one. Good water.

Now, then, if you take and do all of them like that all the way through -- that's been done for this particular thing -- you turn up with pages like this of information. One of them I would like to call your attention to I have relabeled according to my only wishes. This one should actually be labeled ABC8, which is the Audubon-Bates Canal figure. I will relabel it SC8. If you will notice the averages -- Class One, .3 percent; Class Three, .3 percent; Class One, 3.3; Class Two, 3.3, and look over here (indicating) -- 99.9 percent.

Now, then, if we take all of them, run them out like so, and including the control stations, and a thing called 49, which I disagree with it being in this list. Ifyou sample the same place twice in a particular stream, you wil find out, if you put them all together, you get 33.2 percen, even in group three one approaching that point I was tellin you about.

Let's take out station three, station five, whic are controls, and station four-B, and look what you've got -- 9.2 percent in group one, 14.7 in group two, and 70.6 in group three.

My contention is, and my opinion is, that Swift Creek is, in fact, stressed. Now, then, look at the other streams that are being used as your control. There's Camp Grange, Rocky Creek, Hunter Creek, and Roaring Creek. When we look at that, we see a different picture.

Over here, we see 27 percent of them in group three. Over here, we are seeing something like 60 percent or so in group one. Pretty good looking water, with the average not extra super great, but pretty doggone good. You can see there's quite a difference between this one and the one that I just showed you. My contention is that it is stressed.

Grossly polluted? Heck, no. The additional stuff that is being put into it is going to cause it to roll over and turn its belly up? Very doubtful, but it is going to add to the material going into the Suwannee River, and in case you think these numbers don't mean a whole lot -- they are just something on paper that you can't see any visible effect -- let me have a go at that one for you.

There we go. I will try to elevate this thing so you get a look at it. We might as well leave it to equipment. If it can do that, it possibly will. Sorry, but the projector has hung up on me. I will make a copy of these slides, and I will include them in my written presentation for you, and will note the points that I want you to see, particularly ABC8.

A VOICE: I beg your pardon?

MR. ADAMS: I will give the slides and note what I want you to see, particularly a slide of ABC8.

Now, then, as a final thing, recommendation -- I
recommend that the permit be issued. Surprising? Heck, no.
I suggest that it be issued. I also suggest in its issuance
T13 another thing. I don't think that the pH limit as put on
here is adequate based on the fact that the receiving
waters are more acid. I think Occidental is being helped
through the fire.

Now, then, there are some recommendations. The
recommendation is don't make the standard any less than it
is now. Preferably, do something with the water that is
T14 going to be coming out of here from these discharges. Sheet
flow -- I think the state has already recommended require-
ment that Eaglè Lake protection be included in the circuit
at all times, that the new complex' operation is okay, and
I do recommend the permit be issued, but the standards not
be lowered from where they are now.

If Swift Creek arose and ended totally within Occidental's property and never reached Suwannee River, I wouldn't be here. Unfortunately, right now there's no magic screen we can do that with.

I will get this out of your way and thank you.

MR. HAGAN: Thank you, Mr. Adams.

Mr. L. A. Edenfield? Mr. Edenfield, do you wish to make a statement?

(No response)

MR. HAGAN: Mr. John Robertson?

MR. ROBERTSON: John Robertson, President of White Springs Chamber of Commerce, and the following resolution was approved by the Board of Directors of the White Springs Chamber of Commerce at its meeting held on August 15, 1978:

> Whereas, phosphate is one of the essential natural resources of our country in the production of food and fiber, and this natural resource is located in mammoth deposits in Hamilton County near White Springs;
>
> Whereas, the economy of Hamilton County and the White Springs area has benefited from this resource;
>
> And, whereas, Occidental Chemical Company wishes to expand operations in this area which will continue to increase the employment and economic benefit to the White Springs area:

And, whereas, the company, Occidental Chemical Company has a proven record of community interest in environment;

And, whereas, the United States Environmental Protection Agency has conducted an environmental impact study of this expansion and concluded that our environment would not be adversely impacted;

And, whereas, the White Springs Chamber of Commerce, in accordance with its adopted bylaws, is interested in the economic and environmental conditions of the White Springs area for its citizens;

Now, therefore, be it resolved, that the White Springs Chamber of Commerce supports this expansion and urges the expeditious issuance of permits by the appropriate agencies.

Thank you.

MR. HAGAN: Thank you, Mr. Robertson.

Mr. Anwar Wissa?

Mr. Wissa passes.

B. Paradise?

MR. PARADISE: My name is B. Paradise. I am Chairman f the Sierra Club in Jacksonville, and I am here because or members are very concerned about the harm to the recreational aspects of the river. I must say that we are not really in a position to comment on the EIS as we have been unable to get a copy of it. There was supposedly a copy in the public library in Jacksonville, and they do not have a copy, and I really think that EPA should get these copies out to the libraries.

The only comment that we can make is on an EIS that was concerned with the amount of fluoride concentrations. This EIS was dated August 14, and in this draft the statement is made that the fluoride concentrations in places in the Suwannee is higher than those in the Stein hatchee and Crystal Rivers, and, in view of this, it would appear to us that the Suwannee is indeed stressed.

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We believe that the Suwannee is a superb recreational river which is a tremendous recreational asset to Florida, and we believe that its integrity should be preserved.

Finally, one thing we have noted with some displeasure is the effect that this expansion of the complex or construction of the complex will have on the . . . (discontinuing)

T16

Thank you.

MR. MAGAN: Thank you, Mr. Paradise.

I am unable to explain the absence of the EIS in the Jacksonville Public Library. We normally mail then out.

Mr. Mark L. Stevens?

MR. STEVENS: I'm Mark Stevens from Jacksonville, Florida. I am a local canoeist and camper who has visited the Suwannee River many times in the last six years, and I enjoy the area. I enjoy it for its wilderness.

I am also concerned as a private citizen, and I'm working to include the Suwannee River in some way in the scenic and wild river act of 1968 -- in some way including this river so future generations can use it in their recreational area.

From the two or three statements I have looked at in the draft -- and, Mr. Hagan, I would like to say with Mr. Paradise that I was concerned that this was not available to Jacksonville, and some people with a lot more scientific background than myself that I wanted to review these, and it was not available.

In one of the statements it said while the phosphate levels in the river are high, I request that, if it is high, then something should be done about that. There should be no increase in any effluence in any way, if, indeed, the river pollutants are high right now. If we keep increasing effluence on the Suwannee River, what will it be like ten, 15, 50 years from now when increased population forces more and more on the recreation and economic value of the Suwannee River?

I do request simply that the EPA and State Department of Environmental Regulation, first, work into the levels that are now in the Suwannee and ask themselves will increasing in any way harm the Suwannee River as it now is?

I feel it will, and, anyway, if the EPA says in its own statements that the levels, especially of phosphate, are high now, common sense tells me that, if you increase those, you will be making matters worse, and, as time goes on, things won't get better. They will get much worse.

Thank you.

MR. HAGAN: Thank you, Mr. Stevens.

Gilbert McGhin?

MR. MC GHIN; My name is Gilbert McGhin. I am a resident of White Springs and Hamilton County, Florida.

I would like to touch on an area that was briefly mentioned before. I won't be too long with it. I am also Chairman of the Town Council. I would like to speak as a citizen of the local area; bearing in mind that EPA is advised of a minimal ecological impact, it would seem advisible that Occidental's request be approved at the earliest possible date.

This minimal impact would be far outweighed by the tremendous economic impact on this area. The employment opportunities would be greatly enhanced due to the expansion requirements necessary, bringing additional employment opportunities to the citizens of this area. Many area residents are currently employed by Occidental. Prior to the advent of Occidental, there was a wide option of employment possibilities in this area. You either went to work for the state. You went to Lake City. You went to work for a trailer plant.

Occidental has given in this area more employment opportunities. Through this expansion, it could also be anticipated that even more area residents would be employed. This economic advancement means growth, not only for Occidental, but also for the business enterprises and citizens of the area as well.

Thank you.

MR. HAGAN: Thank you, Mr. McGhin.

Mr. Frank Philpott?

MR. PHILPOTT: I thought I had an awful problem ahead of me. I thought I had to outwait Wes Atwood. I never heard him speak less than 20 minutes in my life.

(Laughter)

I am Frank Philpott,Gainesville, Florida, and Chairman of the Suwannee River Authority, but I do not appear before you in that capacity tonight. Rather, I speak as a private citizen who loves the Suwannee River and who prefers to see it not cluttered and develop some

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industries along its banks. These in abundance lower the quality of living for everyone.

I am particularly concerned that the Occidental Chemical Company has been guilty concerning the violation of pollution standards. You define the future by reading the past. This past is not good for the protection of the Suwannee River.

I am concerned, too, that Occidental is taking a lead in seeing that Suwannee River does not become an outstanding Florida river. At the Florida Environmental Regulations Commission meeting in Miami in July, it occurred to me that Occidental (coughing from audience) The Suwannee River is an outstanding Florida river and that a certain condition is not met, we will revert to non status as an outstanding Florida river.

That does not represent to me that Occidental is on the side of the Floridians in this matter.

The third concern of mine is the Environmental Protection Agency proposes relaxing federal water cleanup rules to save $230 million from 36 industries. Just one company, Occidental, having a million-dollar contract with Russia andPoland doesn't appear to need its share of this saving as much as America needs cleaner water, and that goes for the rest of these multi-million-dollar companies.

In conclusion, I wish that Occidental Chemical

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Company not obtain the 144 acres on beautiful, historic Suwannee River. They continue to use 10 million gallons of water daily to burden our river with pollutants and to hamper our efforts to have their Suwannee River designated . . . (discontinuing)

Now that Occidental is here, let's see that it becomes a good neighbor that we can respect and trust.

Thank you.

MR. HAGAN: Thank you, Mr. Philpott.

Ms. Helen Hood?

MS. HOOD: My name is Helen Hood. I live at 4025 Southwest 18th Street, Gainesville, Florida. I am representing Florida Defenders of the Environment, a statewide volunteer organization of specialists who seek the facts needed to make wise environmental decisions.

I have worked for seven years. I am focusing my attention on land preservation and protection all over the state. We recognize the Suwannee River Basin as the outstanding natural resource of this region. It's an extremely complex ecological system. It is the foundation of life support for the people of the region because it is intimately tied to the Florida network and by its estuary system to the gulf fisheries.

The river has a role in life support for much of the state. Nationally, it has been recognized in several

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reports as a significant resource. Our interest in the Suwqnnee River is the long-term preservation of its Occidental characteristics as an ecological system. Although the EIS postulates that this proposed expansion of the Swift Creek Chemical Complex does not add a heavy load of chemicals to the river, it is not the only nor the last source of pollution for the Suwannee.

Our experience with NPDES impact studies has revealed several deficiencies in their format. There is no scutiny of the long-term effects of daily pollutant discharge nor of cumulative effects of a number of discharges, and there is tertiary consideration of the effects on the entire system.

The EIS, although it demonstrates that the existing pollutant load is approximately 40 tons a day, a projected additional load of 2.5 tons a day, or just within the legal limits, does not establish to our satsifaction that the Suwannee System, including the estuary, will not be damaged over the life of the plant.

As it is not known what the critical limits of pollutants are or when they will be reached, those who are really concerned about the future of the Suwannee River must strive for no discharge of pollutants. If it's toward zero discharge to meet the ultimate goal of water quality act by 1985, we should begin now, for it will only be more difficult

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and more expensive in the future.

I have recently served on the governor's special committee of management for the Suwannee River along with 20 other local and state government agencies and the private sector including the general manager of Occidental Chemical Company. The committee's position states that, quote, the overall goal of any Suwannee River management program should be to prevent any further degredation, unquote.

The committee recognizes that is its stated goal and that the objectives can best be accomplished through a formal conservation program involving all levels of government and all the sectors of private interest. Therefore, Florida Defenders of the Environment ask that the Environmental Protection Agency, Department of Environmental Regulation, and the Occidental Chemical Company, in their concern for the Suwannee River look more intensively at alternatives for zero discharge of effluence from the new facility, and that the feasibility of reducing the discharge from existing facility.

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We share the views of the Florida Audubon Society, but, rather than repeat them, I will say for the record that Florida Defenders of the Environment endorses the statement made tonight by Archie Carr.

Thank you very much.

MR. HAGAN: Thank you, Ms. Hood.

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Charles Stefan?

MR. STEFAN: Mr. Chairman, ladies and gentlemen, my name is Charles Stefan. I am a resident of Alachua County and a member of the Citizens Participation Committee of the North Central Florida Region Planning Council. However, I speak here tonight solely as a concerned citizen concerned about the preservation for ourselves and for future generations of the historic, beautiful, and unique Suwannee River and its tributaries.

I have, therefore, Mr. Chairman, read with great interest the summary document of the draft Environmental Impact Statement on the Swift Creek Chemical Complex. By and large, I am sympathetic toward the Swift Creek proposal. I can certainly appreciate the straight economic benefits this complex will bring to this area in terms of increased jobs and in terms of increased past revenues.

However, Mr. Chairman, I do have reservations about certain aspects of this proposal which I would like to submit very briefly for your consideration. First of all, I notethat, according to the summary sheet for the draft EIS, and I quote, the proposed action is expected to result in a maximum increase of 206 kilos/day; for a total of phosphorus, 144 kilos/day; of fluoride, 14 kilos/day. A total of nitrogen -- 1470 kilos/day of sulfate to Swift Creek, unquote.

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Converting these kilogram figures to pounds, we find that there may be dumped in Swift Creek about two tons per day of these pollutants including well over a ton of sulfate. This seems like a lot of pollution. Moreover, these discharge levels are in addition to the discharges from existing Occidental installations, and we may be accosted in the future for additional discharge of pollutants into the Suwannee.

In this regard, I note that, according to the Washington Post, May 28 of this year, that Occidental has signed a preliminary agreement with Poland to supply that country with 1 million tons of phosphate rock annually over a 20-year period. Under these circumstances, I would hope that EPA would take another look at alternative E stated in the draft summary section dealing with waste water treatment alternatives.

Mr. Chairman, as a former foreign service officer with considerable experience in American industries in Moscow and other East European capitals, I read with particular interest this action of the summary document and the draft Impact Statement dealing with the national and the international impacts in the Occidental-Soviet trade agreement, and this section did raise certain questions in my mind.

In general, it is, I believe, an inherent feature

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of the Soviet system that political power considerations take primacy over economic and humanitarian considerations. I well recall that in the late 1940's, when I was in Moscow, the Soviet government abruptly and unilaterally terminated the export of chrome and manganese ores from the Soviet Union to the United States.

We have all heard of the recent arrest in Moscow of the American representative of the International Harvester Company. In my judgment, this action was an unjustified and arbitrary act taken, among other reasons, to obtain bargaining leverage with our government which had arrested several Soviet officials caught red-handed in acts of espionage in this country.

Now, I hasten to add, Mr. Chairman, that I hope nothing of this sort will happen to Occidental, and it may well not happen.

(Laughter)

MR. STEFAN: But I think it fair to say that over the longrun the Soviet Union is not as reliable a trading partner as all those countries which have political and economic systems comparable to our own, but I found no hint that these hard facts of life or their implications in the summary document's treatment of the Occidental-Soviet trade agreement.

Of equal concern to me in this section is the

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apparent unclarity about the extent of Occidental's commitment to bring into the United States those products -- specifically ammonia, urea, and potash -- which they would receive from the Soviet Union in exchange for the phosphate exported to the Soviets. If these products are, in fact, brought to this country for use here, then the beneficial effects upon our balance of payments, on the national balance of non-renewable natural resources cited in the EPA statement seem valid.

However, if a significant part or all of these Soviet products are devoted to third countires, then we are faced with an entirely different situation.

In summary and in conclusion, Mr. Chairman, I respectfully recommend that EPA, one, review the waste water treatment alternatives cited under alternative E with a view to reducing the tonnage of pollutants dumped into Swift Creek and, thus, into the Suwannee; and, number two, tighten up the language of the national and international impact section of the summary document, including a clarification of Occidental's intent with respect to the disposition of Soviet products received by them in exchange for the phosphate exported to the Soviet Union.

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Thank you, Mr. Chairman.

MR. HAGAN: Thank you, Mr. Stefan.

Robert W. Simons?

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MR. SIMONS: My name is Bob Simons. I am from Gainesville, Florida, and I am representing the Alachua Audubon Society.

Our basic concern here tonight is with the magnitude of the situation both in terms of pollution and in terms of the importance of the receiving waters into the Suwannee River, its estuary, and the Gulf of Mexico.

We feel that these aquatic resources are far too important to be taken lightly or polluted unnecessarily and, therefore, we ask that everyone involved here do their very best that they can to protect these resources.

Thank you.

MR. HAGAN: Thank you, Mr. Simons.

I am having trouble with the signature. M-a-h-n (spelling)? Is that right?

MR. MAHON: Middle initial?

MR. HAGAN: Yes, that's it.

MR. MAHON: I apologize for my writing. I didn't know it was that bad.

M-a-h-o-n (spelling). I am John Mahon, Gainesville, and I am a member of the Gainesville Sierra Club and by profession an historian, so the very short pitch I have relates generally to the history of the area.

As long as there have been men in Florida of whatever color, the Suwannee River has been a factor in their lives. It was an avenue for the Indians and became one for the white man. During each sentence, the river went by different names. No one knows for sure where the present name came from or what it represents. At least one Spanish mission was built on its banks, and one or two more were when you counted the tributaries such as the Sante Fe.

Beginning in the 1830's, it began to be plied by steamboats and was essential for the people of middle and east Florida to move their produce. Soon after this, Stephen Foster wrote "Way Down Upon the Suwannee River," and ever since that time the river has become a symbol for the old and beautiful Florida. This is the point I want to stress, its symbolism to a nation.

Whatever hurts the integrity of the Suwannee damages that image, and weakens Florida and the nation. As a symbol, the river ought to be left as near primitive as possible.

There are symbols galore with the new industrial and tourist Florida, but not many remain for the old Florida. We can stand commerce on the river, but seepage into it of industrial poisons and wastes can only be damaging.

Personally, I don't think you have any more right to tamper with this symbol than you do to take down the flag of the United States and stomp on it. It belongs to the nation as well as to White Springs and the other

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communities local here, if there is any movement to change it, it should be backward toward what it symbolizes rather than forward to an ersatz type of America.

Thank you.

MR. HAGAN: Thank you.

Mr. J. K. Watson?

MR. WATSON: My name is J. K. Watson. I live in Gainesville, Florida. I am speaking tonight as a representative of the Suwannee River Coalition.

The Suwannee River Coalition was formed about a year ago with a specific goal of protecting the natural, scenic, and historic qualities of the Suwannee River. Our membership includes individuals, local organizations, and statewide organizations. The coalition represents a great diversity of interests, but the one thing we all have in common is the Suwannee River.

The Suwannee represents many things to many people. It's the life blood of the Suwannee Valley. It's more than a place to live. It is a way of life. It's a collection of places to enjoy in many ways, places to fish, places for recreation, skiing, boating, canoeing, camping, and swimming in those wonderful springs, and that's my pleasure.

The Suwannee region is rich with scenic values, rich with historic values, and many historic and pre-historic

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sights. The Suwannee is Florida's most famous river, a remarkable resource that belongs to all of us. It's an important recreational resource to the region. The Suwannee River Coalition recognizes the significant impacts that Occidental Chemical Company has on this part of the state. There are definite pluses and minuses to this impact.

On the plus side are the economic benefits. There's just one example. According to the impact statement, Occi has provided 1,000 jobs in Hamilton County and neighboring counties in a place where jobs are scarce, and, as a personal observation, may I add that I have enjoyed the privilege of meeting several of the Occidental management people. I found them to be pleasant, open individuals who answered questions in a straightforward manner and who seemed willing to show any part of their operation that you are worried about.

I dislike having to point out these following negative impacts of Occidental Chemical Company, but you have to face up their operation is polluting the Suwannee River. At the present river, the pollution is two and a half tons per day of phosphorus, 1.3 tons of nitrogen, a half a ton of fluoride, 24 tons of sulfate, 7 tons of calcium, 4.6 tons of sodium.

These figures are for the average flow of Swift Creek, and all those are in tons per day, and that's on page

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147 of the EIS summary, if you convert the kilograms per day to tons -- 40 tons per day.

The purpose of this hearing, however, is that Occi proposes to build a new plant which is proposed to add an additional burden of new pollutants. I won't name them one by one, but the amount of the new pollutants add up to a total of two and a half tons per day more, which is an increase of 6.4 percent.

Now, the argument, Occi's argument in favor of allowing its proposed new source might be paraphrased as look what we are doing already. By comparison, it's only about five percent more.

Well, we don't buy that argument. We ask where is it going to stop? Last February, right across the road in the other building, Occi asked for and got a relaxation of pollution standards. Now, it's August, six months later, and Occi is asking for another five percent.

Just a week or two ago, I learned of a new million-dollar deal from Occi to sell phosphates to Poland. Does that mean another five-percent more pollution, or is it ten percent, or 25 percent?

I have a strong feeling that the people of Florida are not going to go along indefinitely even though, through a peculiarity of the laws as they are now set up, what Occi is doing is within the letter of the law.

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Let me summarize the coalition's position on the pollution issue in this way. We are neighbors with Occi in sharing our respective uses of the Suwannee; that Occi's use carries a thread of degrading the quality of everyone else's use, which is not a very neighborly thing to do. We do not like the idea of ever increasing pollution loads, and we ask Occidental to find ways to turn it around.

We know that they are within the law, but we also know that the industry negotiated what the rules of the law were to be.

In conclusion, the coalition appreciates the opportunity to speak. We appreciate having these facts and figures so clearly spelled out in the Environmental Impact Statement. It's now a new ballgame. These figures were very hard to come by until this EIS became available. I think it's a new ballgame.

There can no longer be any lingering doubt in anyone's mind that there are thousands of tons of chemicals that reach the Suwannee annually for Occidental's operation.

Thank you.

MR. HAGAN: Thank you, Mr. Watson.

We are two hours into the hearing. Normally, I would ask for a stretch break at this time, but I only have three more cards, so, with your indulgence, I would propose to go straight on through and finish it.

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Susan Matthews?

MS. MATTHEWS: My name is Susan Matthews, and I am here to speak for Alex Green, who is the director of Interdisciplinary . . . (discontinuing) ... at the University of Florida in Gainesville.

Dr. Green has been involved with recent research in sulfur dioxide for Florida utilities. His comments pertain to the air pollution considerations of the EIS summary.

The main question that can be raised is to what level should projected 1979 air quality be referred? The statement on page 127 suggests that EPA in January of 1978 evaluated the prevention of significant deterioration clause in the Clean Air Act of 1977, and in February of 1978 grants approval of the Occidental proposal.

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The big question is what was the levels before the complex went on the line? Undoubtedly, these were of the nature of pristine, sulfur dioxide, and total suspended particles levels for northern Florida.

The first of these pristine levels of the PSD provisions o f the Clean Air Act of 1977 would undoubtedly have been violated. Without doubt, the Suwannee River and Swift Creek Chemical Complexes have or willdegrade the air quality much more than 1977 act has.

Environmentalists should raise the question as to

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whether these complexes really got under the legal wires in all cases. There is no doubt the complexes are leading to a very serious degradation of air quality.

Table 3.13 raises some additional questions. While presumably, official EPA dispersion modeling methods have been used, one can question the reliability of its particular points in view of the questionable nature of the 24-hour and three-hour prediction models.

Furthermore, by a slight change of input, when these numbers produce, they'd be slightly higher, in which case, Florida's standards will be violated in the Suwannee River Chemical Complex. The use of Valdosta and Waycross Georgia winds introduce uncertainties of much greater magnitude, and the burden of proof should be upon Occident that they will stay below state standards.

MR. HAGAN: Thank you. George Gibbs?

MR. GIBBS: Mr. Chairman, ladies and gentlemen, I want to suggest a few things that have not been covered by the others. One of them is -- first of all, my name is George Gibbs, and I represent the canoe outpost as well as Ichtuchnee Campground, both of which received much of their business in the Suwannee River.

I want to make a little contradiction here. I don't think this river is the most important river in Florida. I think it is one of the most important rivers in

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the United States according to the people who have come to us and traveled on it and love it and come back again and send their friends, and I am also alarmed at the amount of pollutants that enter the river and the people who build along the river, and when the floods come, the septic tanks are flushed into the river.

Also, I am a farmer at heart, and I see the farmers out here putting poison into the ground water, and a certain amount of that must get back into the river. I also feel that the Russians are smart people. First of all, the committee who made this deal, according to our exchange of natural resources, is going to make it in our favor. According to Reader's Digest -- I think it's in June -- it was made very much in favor of the Russians, and nothing has been done about it since.

Also, I say they are smart people. They are shipping their nitrogen, their poison, over here. I say poison. We are killing our cattle. They have killed a few of our people. We don't know just how many. We may have killed more than we know. We know that we have killed cattle and children, and with these ammonia products that were shipped to us from Russia as well as those that are developed in this country, and I don't believe the farmers know what they are handling.

If they did, they would take a lot more care, and

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I mean by handling first the match. I see them burn their organic matter, and I see them add these poisons to their land to try to get a crop, and then you eat it. I do, too, and I'm not in favor of adding any more pollutant in our area.

This is a farming area, and nobody knows what we could do. You speak about economic expansion. Nobody knows what to do with economic expansion. If we would probably educate our farmers as to how to use chemicals and organic matter and raise a crop of crops. I say this, and I've had 30 years' experience with the Department of Agriculture and two years in the United Nations' food organization, and 18 years of that was overseas, and I know how important phosphate is in our lives as well as the lives of other people around.

I have seen cattle in Montana which did not have enough phosphate and used the phosphate from their own bones to develop the fetus, and then try to build it back, and had a solid backbone where they should have had a flexible vertebra, and we are not improving any as we go on doing that.

But why send the cream of our crop of our natural resource, phosphate, to another country when our farmers need it, and, as we go deeper, each shovelfull is going to cost more, and those farmers, our farmers, are going to have

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to pay that higher price. I don't know whether the Russians are or not. I doubt it because I don't think they will ever give our farmers two percent money to send back to the government by phosphate, which we are doing with Russia.

I hope that we will sit down, be a little bit cautious, and think about it from some other angles.

Thank you.

MR. HAGAN: Thank you, Mr. Gibbs.

Scott Wheeldon?

MR. WHEELSON: My name is Scott Wheeldon. I'm from Gainesville, Florida. I am representing the Florida Chapter of the Sierra Club.

I am sure that many people here are aware of the attributes of the Suwannee River. When in grade school in upstate New York, I san about the Suwannee River, and its lazy waters. Since Stephen Foster's song, the river has become a national landmark, attracting tourists in the Southeast as well as other regions of the country.

Since moving to Florida seven years ago, I have canoed, swam, and relaxed along the banks of the Suwannee on many occasions. I don't like the idea of the Suwannee River carrying highly elevated amounts of phosphates and nitrates, fluorides, as well as radioactive isotopes flushed into the river. They runoff from disturbed areas.

The draft Environmental Impact Statement, which I

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have studied, points out that internal production will not increase in the area. A new economic market opening up to the Occidental Company -- I feel that, more than likely, total production will increase to meet the demands of the market to be supplied with phosphate. The production increase will undoubtedly produce a high total pollution load for the river.

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I am disturbed somewhat since this pollution load has no maximum limit, but is merely dependent upon the amount of water discharge as seen in the quantities being labeled in milligrams per liter.

Not only does the Suwannee provide recreational facilities, but its mouth feeds water supplying food for fishes. Since it is supporting the fishing industry in the Gulf of Mexico, I would like to be sure through evidence that the Suwannee will be safe and free from chemical pollutants as a recreational river as well as food source.

We are concerned for the national scenic landmark. Let us keep it in good trust for all those come here to enjoy it.

Thank you.

MR. HAGAN: Thank you, sir.

I have two cards here from persons who indicated they might wish to speak. Mr. Charles Lee?

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MR. LEE: Mr. Chairman, representatives of both DER and EPA, ladies and gentlemen, Charles Lee, Florida Audubon Society.

What I have to say is quite brief. I would like to emphasize one of the statements made very briefly by Mr. Frank Sedmera from the Columbia County Environmental Coalition. Point out that the information presented by Mr. Sedmera was the information of a very similar vein that has~~n't~~ been available to the Environmental Protection Agency as early as February of this year when the public hearing was held on the permit application for the discharge from the existing source into Swift Creek.

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Specifically, the data mentioned by Mr. Sedmera and the data which was placed into the record at that previous hearing regarded discrepancies between monitoring data that had been submitted by the applicant to the Environmental Protection Agency and the Department of Environmental Regulation, and monitoring the same parameters that was being achieved during the same timeframe under a program by the US Geological Survey.

We are quite concerned that the discrepancy in the monitoring between the same parameters has not been addressed at this point, and we would certainly hope that in the commentary in the final Environmental Impact Statement, that a clear answer is provided as to why these

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differing numbers are being arrived at by a monitoring at the same time and same place and the same parameters.

These unanswered questions can only hurt both the credibility of the EIS and credibility of the DER and EPA monitoring programs as they evolve with regard to this plant, and we would believe that the final Environmental Impact Statement would be very appropriate place to provide an answer to these questions, and I won't elaborate more on what we put into the record because it is a matter of record in that previous hearing.

We urge you to go back to that record, but the discrepancies we noted at the time were virtually the same, of the same quality, as those reported by Mr. Sedmera here tonight. They do deserve your utmost attention.

Now, if I may, I would like to close on a little different note. I've heard a lot about the Suwannee River in both of these public hearings held on this same complex in February and now today, and we've heard a lot in terms of statements by both EPA and statements by the applicant, Occidental, as to the fact that everyone here is concerned with the Suwannee, protecting the Suwannee River.

Of course, Occidental does want to make the use of it as a discharge point. I would like to call on Occidental, as a citizen of the community of the Suwannee River as it is, and would certainly hope that the sincerity

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of the statements that have been made by the representatives of Occidental could be backed by some forthright action on the part of that company to join with the growing community of individuals who would like to see some special protection achieved for the Suwannee River along the lines of the outstanding water classification being proposed by the department.

I think the statements that have been made here tonight that the company is sincerely concerned with the quality of the river could be significantly bolstered by a forthright effort on the company's behalf to achieve this level of protection for this truly national resource, and I think it's within the company's ability to achieve that.

Thank you very much.

MR. HAGAN: Thank you, Charlie.

Mr. W. H. Alexander?

(No response)

MR. HAGAN: Mr. Alexander, did you wish to make a statement?

(No response)

MR. HAGAN: That is all the comments I have. Yes, those are all the cards I have now. Is there anyone who had not previously registered who would like to make a statement at this time?

MS. SHIFFLETTE: Mr. Chairman?

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MR. HAGAN: Yes, ma'am, would you please come to the microphone and identify yourself?

MS. SHIFFLETTE: Mr. Chairman, ladies and gentlemen, I am Ms. Carl Shifflette, Executive Vice-President, Suwannee River Citizens Association. I was here at the February meeting.

Suwannee River Citizens Association was chartered in 1965, and I would -- I think I am not remiss in saying that our association has done more than any other organization ---

A VOICE: We can't hear you back here.

MS. SHIFFLETTE: You can't? I am not tall enough to reach it. How is that? Is that better?

A VOICE: That is better.

MS. SHIFFLETTE: Okay. I'll start over again. I am Ms. Carl Shifflette, Executive Vice-President of the Suwannee River Citizens Association, which was chartered in 1965.

I have lived by the Suwannee River for 25 years, and I have seen its ups and downs. Suwannee River Citizens Association, I think I can safely say, has done more than any other organization for the preservation of the Suwannee River.

We have continuously initiated various efforts to see that the scenic and the quality of the scenic beauty and

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the quality of the water are preserved, and we are still in the process of doing that.

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Now, I would like to ask a couple of questions, if I may. Does the Environmental Protection Agency consider this new permit sufficient to prevent pollution of the Suwannee River?

MR. HAGAN: I have no intention of responding to the questions.

(Laughter)

MR. HAGAN: We will respond to the question directly in the final impact statement.

MS. SHIFFLETTE: Well, now, I under the DER specifications are more strict than the Environmental Protection Agency's. Is that true?

MR. BRYANT: Our requirements would be that the discharge after reasonable mixing with receiving waters would meet state board quality standards, and we have designated where that point is, at least at an interim opinion of where that point is. We have so informed the company of our decision in that regard.

In regard to the pollution, your first question, the only answer that we would have to that is that water quality standards themselves allow the discharge of pollutants into streams. There's no question about that. It's a matter of whether or not the stream system can assimilate

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the amount of pollutants that are discharged, and are the discharges excessive in causing water quality problems. The water quality standards are set by the state.

If the standards need be more strict, of course, the citizens and other groups can go to the state and request the state to amend these standards, but it is our intention that this company as well as any other company that developed similar operation along the Suwannee River will meet state board quality standards with their discharge, or go back up on their uplands and initiate efforts to reduce and pollutant levels that go in it should it be shown that the discharge is excessive and is causing water quality damage.

MS. SHIFFLETTE: Thank you very much. We have a lot of respect for the DER water qualification standards, and I mentioned in February, at the hearing in February, that the US Geological Survey sampling program, in cooperation with the Suwannee River Authority, shows that there has been practically no change in the water quality in the Suwannee River since the program started in 1968, and that, I think, speaks well for Occidental.

There were a few minor things, but they were corrected, and I believe that Occidental has been a very good citizen, and is entirely conscientious about wanting to preserve the Suwannee.

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We all want to preserve the Suwannee, and, if I might mention, if all the people who use the Suwannee for recreational purposes would respect it the way we do, and the way the ecology groups do, and the way Occidental does, the river would be cleaner than it is because they would not throw all kinds of trash in the river in the aftermath of their recreational activities.

I recognize and admire and respect the dedication of all these organizations that are trying to preserve the quality of our environment. I have a great deal of admiration for you as I see the other side of the question because Suwannee River Association represents a cross-section of people. We represent property owners, recreational groups, and all kinds of people all over Florida and Georgia, and in other places, so we have a rather broad point of view, and we can see the necessity for industry. We can see that it has a tremendous impact upon the whole area, and it is absolutely essential to the economy of the area.

Therefore, we respect the industry. Now, there are two sides to every coin. Each side is different. If you take a silver dollar and look at it on one side, it says one thing on it. One side has another, but if you try to split it down the middle, you can destroy both sides of it, and it seems to me that the environmentalists and industry

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are in the same -- somewhat a similar position.

There are two sides of the coin, and instead of the nitpicking and the antagonism apparent from time to time, if the two could learn to work together and keep the coin intact, it would go a long way toward keeping environment clean, and keeping the Suwannee River clean, and, of course, the Suwannee River is our major concern because we are considered sort of the watchdogs of the Suwannee River.

So, I believe that these new specifications are reasonable, and, if in the opinion of the Environmental Protection Agency and the Department of Environmental Regulation, these specifications are adequate to maintain the present quality of the Suwannee River, then we would accept those, those specifications.

Thank you.

MR. HAGAN: Thank you, Ms. Shifflette.

Is there anyone else in the audience who would like to make a statement at this time who has not previously -- yes, sir?

MR. WOOD: My name is Eugene Wood. I am on the city council. I'm not speaking as a spokesman for the city council. I'm speaking as an individual.

We have pretty well established tonight that Occidental is going to make every effort to keep from

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polluting the Suwannee River. We have hit on the job situation, but the bottom line of this whole deal is food. I have a question to ask everyone here who has spoken out for and against it. If you were hungry, would you want not to mine the area.

Thank you very much.

MR. HAGAN: Are there any other statements from the floor at this time?

Yes, sir?

MR. PETERS: I ask to make a proposal at the end of this meeting. I think this proposal will answer most of the questions people have. I propose that Occidental Chemical Company have all the water in Swift. We would also want Swift Creek returned to the people in its natural state at the end of the mining operations.

Thank you.

MR. HAGAN: Are there any further comments from the audience?

(No response)

MR. HAGAN: If not, I would like to ask if there are any comments from committee members of the panel?

MR. BRYANT: I would just like to thank all of the citizens for their comments, and the department will evaluate these comments. I plan to look further into some of the EPA's statements. We have supporting documents as

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well as the summary. We will go back and evalute them.

Thank you very much.

MR. HAGAN: If you will bear with me for just one moment until the final closing statement.

I want to thank all of you for taking time to be here tonight and for participating in this hearing. The comments received tonight will be carefully considered and responded to in the final EIS.

I want to reiterate that the comment period from the draft Environmental Impact Statement will remain open until the close of business, Thursday, August 31. What that says in layman's terms is if you heard something tonight that you didn't like, you can write to us and tell us about it.

Further submissions must be in writing to be included in the official record and should be sent to my attention, again, at the address that is shown on the agenda sheet.

The final Environmental Impact Statement will consist of a summary of the draft, any pertinent additional information or evaluations developed as a result of these comments, revisions to the draft EIS, and a transcript of this hearing.

All substantive comments received here tonight or submitted in writing will be summarized in a draft of the

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Environmental Impact Statement. After considering the evidence and the statements presented at this hearing, and any written comments submitted between now and August 31, the Environmental Protection Agency will make a final determination regarding permit issuance.

The agency decision, as well as the final permit, will be included in the final EIS. Upon complete of the final EIS, the document will be made available to the public, and this time we will try to get in the library in Jacksonville.

Those of you who have commented tonight or who have submitted written statements will receive a copy of the final EIS by virtue of the fact that your registration card automatically gets you on our mailing list.

I want to thank you all again for your participation and your patience, and if there is nothing else to come before the board, I declare this meeting to be adjourned.

(Whereupon, the above-entitled meeting was adjourned.)

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C E R T I F I C A T E

STATE OF GEORGIA)
)
COUNTY OF DeKALB)

I, Neal Causey, being a Court Reporter Certified by the State of Georgia and a Notary Public in and for the State of Georgia at Large, do hereby certify that the above and foregoing is a true and complete transcription of my stenographic notes taken at the hereinabove set out time and place and was reduced to typewriting by me personally.

I further certify that I am neither of kin nor counsel to any of the parties nor financially interested in the action.

WITNESS my hand and official seals at Atlanta, County of Fulton, State of Georgia, on this the 31st day of August, Anno Domini 1978.

Neal Causey
NEAL CAUSEY

(SEALS)

B-270

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ERRATA SHEET FOR PUBLIC HEARING TRANSCRIPT

The following list presents significant corrections identified by EPA through a review of the taped transcripts of the public hearing and of the signed statements submitted at the hearing.

Reference (Page and Line)	Correction
III-5, line 10	"development" should read "develop"
III-5, line 11	"developed" should read "develop"
III-5, Line 23	"agency" should read "agencies,"
III-6, line 15	"of" should read "in"
III-11, line 11	"annual and short-term increments" should read "annual and short-term PSD increments"
III-11, line 24	"aor" should read "air"
III-12,line 19	"surfact" should read "surface"
III-14, line 8	"leadings" should read "loadings"
III-14, line 18	"hour" should read "year"
III-14, line 22	"total" should read "treated"
III-15, line 5	"cooking" should read "cooling"
III-15, line 8	"ehemical" should read "chemical"
III-15, line 16	"that" should read "in"
III-15, line 17	"would" should read "to"
III-15, line 18	"Florida" should read "Floridan"
III-15, line 20	"Suwanee" should read "Suwannee"
III-16, line 1	"Florida" should read "Floridan"
III-16, line 12	"requires" should read "would cause"
III-16, line 13	"reported to" should read "recorded for"
III-16, line 16	"Occidential" should read "Occidental"
III-17, line 9	"Suwanee" should read "Suwannee"
III-17, line 14	"Suwanee" should read "Suwannee"
III-18, line 22	"ina" should read "in a"
III-20, line 12	"shown" should read "thrown"
III-20, line 13	"about" should read "at"
III-20, line 16	"effect of" should read "and biota and"

Reference (Page and Line)	Correction
III-20, line 19	"Suwanee" should read "Suwannee"
III-20, line 22	"assuming" should read "is shown in"
III-20, line 25	Question should be completed: "...taken into full consideration?"
III-21, line 3	Sentence should be completed: "...were included in the models."
III-21, line 5	"commodity" should read "modeling"
III-21, line 8	"on" should read "and"
III-21, line 8	"Suwanee" should read "Suwannee"
III-22, lines 1,2	Sentence should be read: "...New sources falling within the phosphate subcategory must have in place prior to discharge, treatment facilities deemed to be the Best Available Technology economically achievable."
III-22, line	"These sources" should read "The new source limitations"
III-22, line 11	"sulphate" should read "a calcium sulfate"
III-22, line 12	"alone" should read "run-off facility"
III-22, line 13	"as" should read "with"
III-22, line 14	"operates" should read "operated" "strange" should read "surge"
III-22, line 17	"participation" should read "precipitation"
III-22, line 18	"to two-thirds" should read "into the surge"
III-22, line 21	"service" should read "surge"
III-22, line 24	"is" should read "as"
III-23, line 11	"effluence" should read "effluent"
III-23, lines 18,19,20	Sentence should read: "Instead, a permit has been developed which imposes more stringent limitations after final treatment in a 140-acre settling pond known as the Section 10 Lake."
III-23, line 21, 22	Sentence should read: "This lake was constructed by Occidental for use only when turbidity problems were encountered in upper Swift Creek."

Reference (Page and Line)	Correction
III-23, lines 24,25	Sentence should read: "...treatment step which is not usually available to fertilizer plant discharges."
III-24, line 1	"phosphate" should read "phosphorous" "in" should read "and"
III-24, lines 10,11,12, 13,14,15	Sentences should read: "This is the total amount of phosphorous discharged from the plant and the mine. If a strict guideline permit is considered, the discharge from the nonprocess water alone could amount to as much as 1,365 pounds of phosphorous per day."
III-24, line 22	Line should read: "to mine standard units, since the natural background in the area is known to occasionally"
III-24, line 23	"that" should read "the"
III-25, line 9	"plant" should read "permit"
III-25, line 13	"on this" should read "comments"
III-25, line 23,24	"board qualifications" should read "water quality standards"
III-25, line 25	"deal with pollutant" should read "include within its"
III-26, line 8	"that" should read "at" "channel" should read "ten"
III-26, line 9	"at the" should be inserted before discharge
III-26, line 10	"level" should read "body"
III-26, line 13	"amplification" should read "application"
III-26, line 20	"any" should read "the"
III-26,line 21	"state's" should read "state"
III-26, line 22	"assimilation" should read "entrapment and assimilation"
III-26, line 25	"of" should read "in"
III-27, line 12	"just heard" should read "have had"
III-29, line 23,24,25	Sentences should read: "...a part of the record. In addition to all written and oral statements submitted this evening, the comment period...."
III-30, line 22	"many" should read "eight"
III-31, line 7	"nitrogen" should read "nitrogen additive"

Reference (Page and Line)	Correction
III-31, line 9	"gasses" should read "gas"
III-32, line 7	"insurance to the agencies that" should read "an assurance to the agencies and the public that"
III-33, line 9	"brain" should read "training"
III-33, line 11	"trip" should read "field trip"
III-33, line 13	"and" should read "I would like"
III-33, line 19	"and their" should read "on the" "research" should read "discharge"
III-33, line 24	"range of" should read "any"
III-34, line 2	"above" should read "about"
III-34, line 8	"There's nothing" should read "It is not"
III-34, line 21	"filling" should read "fulfilling"
III-34, line 22	"new" should read "many"
III-35, line 3	"no" should read "not"
III-35, line 4	"and saw" should read "in"
III-35, line 6	"physical" should read "statistical"
III-35, line 14,15	Lines should read: "...look more by looking at the total number of vertebrate species, excluding birds."
III-35, line 18	"already been" should read "aquatic habitat"
III-36, line 4	"look what we" should read "look at what they"
III-36, line 5	"endangered" should read "rare and endangered"
III-36, line 9	"endangered" should read "rare and endangered" "near their pond" should read "in either spot"
III-36, line 18	"many changes" should read "many of these changes"
III-36, line 20	"trade" should read "trade agreement"
III-40, line 2	"threw" should be "dumped"
III-40, line 7	"and it would seem" should read "which seems"
III-40, line 9	Line should read: "Now, we have a beautiful river - water which is a public trust that belongs to all."
III-40, line 12	"My friends" should read "My friends at IFAS"
III-40, line 13	"phosphates" should read "Florida's phosphates"

Reference (Page and Line)	Correction
III-40, line 17	"effluence" should read "effluent"
III-40, line 23	"effluence" should read "effluent" "1,200" should read "1,204"
III-41, line 14	"need a service line" should read "also have a slide projector"
III-41, line 15	"I" should read "Somebody else"
III-41, line 16	"We" should read "If you"
III-41, line 25	"Lakeland" should read "Maitland"
III-42, line 3	"on" should read "of"
III-42, line 10	"homily similee" should read "homely simile"
III-42, line 12	"effluence" should read "effluent"
III-42, line 14	"most" should read "both"
III-42, line 18	"on" should read "and"
III-42, line 21	"always" should read "are we"
III-42, line 23	"is this" should read "in the" "phosphorous" should read "fossil"
III-43, line 1	"drawing" should read "drawing up"
III-43, line 4	"Permits" should read "Permit"
III-43, line 9	"session" should read "section"
III-43, line 11	"the" should read "that the"
III-43, line 16	"potash" should read "product"
III-43, line 19	"but we" should read "Russia"
III-43, line 22,	"exceptions, these" should read "assumptions used"
III-43, line 24	"real" should read "whole"
III-43, line 25	"that" should read "them"
III-44, line 19	"will be" should read "may be"
III-45, line 8	"provision" should read "revision"
III-45, line 14	"This $20 million" should read "With a $20 billion"
III-45, line 15	"attained" should read "at hand"
III-45, line 20	"effluence" should read "effluents"
III-45, line 25	"--" should read "legal pollutants"

Reference (Page and Line)	Correction
III-46, line 2	"absence" should read "apparent absence" "to" should read "in the"
III-46, line 11	"effluence" should read "effluents"
III-46, line 16	"little" should read "legal"
III-46, line 19	"Suwannee-Swift Creek" should read "Suwannee"
III-46, line 21	"thoudands" should read "thousands" "Suwannee, the" should read "Suwannee, will the
III-46, line 24	"in" shold read "from"
III-47, line 2	"industry" should read "industries"
III-47, line 3	"all desire" should read "all will desire"
III-47, line 4	"river's" should read "river to"
III-47, line 16	"is" should read "as"
III-47, line 21	"man's" should read "man" "in the peninsula" should read "in peninsular"
III-47, line 23	"it's" should read "soon"
III-47, line 24	"only through" should read "through"
III-48, line 2,3	"Having the advantage of a river such as the Suwannee" should read "How do you manage such a river as the Suwannee?"
III-48, line 4,5	"Not like the Church River" should read "Not like the kepone-choked James."
III-48, line 5	"up in" should read "of"
III-48, line 6	"should be managed" should read "you manage"
III-48, line 9	last "to" should read "and"
III-48, line 10	"permit the" should read "commit to" "of the" should read "from"
III-48, line 14	"in" should read "from"
III-49, line 22	"the index" should read "Beck's" ""find" should read "take" "they" should read "you"
III-49, line 24	"for" should read "are" "intolerance" should read "intolerants"
III-49, line 25	"intolerant" should read "tolerant"
III-50, line 1	"intolerant" should read "toelrant"
III-50, line 7	"Walsh" should read "gross"

Reference (Page and Line)	Correction
III-50, line 10	"iron" should read "too much iron"
III-50, line 11	"taking" should read "to take" "hammar" should read "hammer"
III-50, line 15	"(discontinuing)" should read "out of the EIS"
III-50, line 15	"a Beggs" should read "about Beck's"
III-50, line 16,17	"as you got it in two" should read "that they're divided into"
III-50, line 17	"as" should read "has"
III-50, line 25	"the" should read "them"
III-51, line 12	"only" should read "own"
III-51, line 13	"Audubon-Bates" should read "Altman Bay"
III-51, line 16	"Class Two, 3.3" should read "Class Two, 0.3"
III-51, line 20	"If you" should read "It's a"
III-51, line 21	"Sample the" should read "Sampling of the"
III-52, line 7	"Grange" should read "Branch"
III-53, line 11	"as" should read "that is"
III-53, line 13, 14	Sentence should read: "I think Occidental's feet are being held to the fire."
III-53, line 20	"protection" should read "or Section 10 Lake"
III-54, line 17	"mammoth" should read "mineable"
III-55, line 3	"in environment" should read "and involvement"
III-55, line 7	"would" should read "will"
III-56, line 10	"places" should read "oysters"
III-56, line 21	"(discontinuing)" should read "rare and endangered species..."
III-57, line 6,7	", and I'm" should read "on"
III-57, line 9,10	"can use it in their" ahould read "can use and enjoy it in a"
III-57, line 14	"to" should read "in" "some" should read "I had"
III-57, line 20	"effluence" should read "effluents"
III-57, line 22	"effluence" should read "effluents"
III-58, line 2	"work" should read "look"
III-58, line 18	Line should read: "Chairman of the Town Council of White Springs but primarily I would like to speak as a"

Reference (Page and Line)	Correction
III-59, line 25	"and develop some" should read "with developments and"
III-60, line 4	"guilty concerning" should read "guilty in court cases"
III-60, line 5	"define" should read "devine"
III-60, line 12	Line should read: "appeared to me that Occidental tried to get a two year delay in final acceptance of"
III-60, line 13	"is" should read "as"
III-60, line 14	Line should read: "if certain conditions are not met, the river would revert to no"
III-60, line 20	"230" should read "200" "from" should read "for"
III-60, line 21	"a million-dollar contract: should read "two 20 billion dollar contracts"
III-61, lines 1,2	Lines should read: "Company had not obtained 144,000 acres on the beautiful and historic Suwannee River to continue to use millions of gallons"
III-61, line 4	"their" should be "the" "(discontinuing)" should read "as an Outstanding Florida River."
III-61, line 16	"for seven years. I am" should read "for FDE for seven years,"
III-61, lines 19,20,21, 22,23,24	Sentences should read: "As an extremely complex ecological system, it is the foundation of life support for the people of the region. Because it is intimately tied to the Floridan aquifer, and by its estuarine system to the Gulf fishery, the river...."
III-62, line 2	"Suwgnnee" should read "Suwannee"
III-62, line 3	"Occidental" should read "outstanding"
III-62, line 10	"scutiny" should read "scrutiny"
III-62, line 12	"textiary" should read "cursory"
III-62, line 15	"is" should read "of" "a projected" should read "and the projected"
III-62, line 16	"or" should read "are"
III-62, line 20	"As" should read "Because"
III-62, line 23	"If it's" should read "Efforts"

Reference (Page and Line)	Correction
III-62, line 24	"of water" should read "of the water"
III-62, line 25	"1985, we should" should read "1985 should"
III-63, line 3	"of management" should read "on management needs"
III-63, line 4	"other local" should read "others from"
III-63, line 9	"recognizes that is its" should read "recognized that its" "goal" should read "goals"
III-63, line 10	"and that the" should read "and"
III-63, line 11	"conservation" should read "comprehensive"
III-63, line 12	"the sectors of private interest" should read "affected private interests"
III-63, line 16	"the Suwannee" should read "the same goal for the Suwannee"
III-63, line 17	"effluence" should read "effluents"
III-63, line 19	"from existing" should read "from the existing"
III-63, line 21	"say" should read "state"
III-64, line 14	"I can" should read "I am aware of and can"
III-64, line 15	"will" should read "would"
III-64, line 16	"past" should read "tax"
III-64, line 22	"for" should read "of"
III-64, line 23	"144" should read "147"
III-64, line 23,24	"14 kilos/day. A total of nitrogen" should read "14 kilos/day of total nitrogen"
III-65, line 7	"accosted" should read "confronted" "future for" should read "future with requests for"
III-65, Line 14	"would" should read "will" "stated" should read "cited"
III-65, line 18	"industries" should read "embassies"
III-65, line 20	"this action" should read "the section" "and" should read "of"
III-66, line 20	"all" should read "are"
III-66, line 22	"that" should read "of"
III-67, line 3	"would" should read "will"

Reference (Page and Line)	Correction
III-67, line 7	"on" should read "and"
III-67, line 11	"devoted" should read "diverted" "countires" should read "countries"
III-68, line 6	"into" should read "namely"
III-69, line 2	"each sentence" should read "then centuries"
III-69, line 13	"a" should read "the"
III-69, line 14	"hurts" should read "impairs"
III-69, line 18	"with" should read "for"
III-71, line 1	"sights" should read "sites"
III-71, line 7	"There's" should read "And that's"
III-71, line 8	"Occi" should read "Oxy"
III-71, line 20	"river" should read "time"
III-72, lines 4,9,15 17,19,24	"Occi" should read "Oxy"
III-72, line 24	"the laws" should read "the pollution laws"
III-73, line 2,3	"Occi" should read "Oxy"
III-73, line 3	"that" should read "but"
III-73, line 4	"thread" should read "threat"
III-73, line 19	"for" should read "from"
III-74, line 4	Line should read: "Interdisciplinary Center for Aeronomy and (other) Atmospheric Sciences"
III-74, line 7	"in" should read "on"
III-74, line 14	"in" should read "of" "grants" should read "granted"
III-74, line 16	"was" should read "were"
III-74, line 17	"the" should read "either"
III-74, line 19	"for northern" should read "for rural northern"
III-74, line 20	"The first" should read "Referred to" "levels of the" should read "levels the"
III-74, line 24	Line should read: "air quality in this part of Hamilton County much more than the 1977 Act allows.'
III-75, line 3	"degredation" should read "degradation"

Reference (Page and Line)	Correction
III-79, line 5	"phosphate. The" should read "phosphate products. A"
III-79, line 13	"its mouth feeds" should read "at its mouth" "waters supplying" should read "these waters supply"
III-79, line 14	"fishes since it is supporting the" should read "fish which support a viable"
III-79, line 15	"sure" should read "assured"
III-79, line 19	"concerned for" should read "custodians of a"
III-79, line 20	"come here" should read "who would venture here."
III-80, line 2	"Charles Lee" should read "I'm Charles Lee, Vice President for Conservation of the"
III-80, line 7	"Point" should read "And point"
III-80, line 8	"was the" should read "or"
III-80, line 8,9	"that hasn't been" should read "has been"
III-80, line 18	"monitoring" should read "monitoring of"
III-81, line 1	"by a" should read "by"
III-81, line 2	"and" should read "of"
III-81, line 7	"be very" should read "be a very"
III-81, line 13	"of" should read "and of"
III-81, line 16	"I've" should read "We've"
III-81,line 21	"protecting the Suwannee River" should read "and protecting the Suwannee River as a resource for the area."
III-82, line 7	"department" should read "Department of Environmental Regulations in its 17.3 water quality criteria."
III-82, line 21	"Comments" should read "cards"
III-84, line 12	"under" should read "understand"
III-84, line 17	"board" should read "water"
III-85, line 1	"and" should read "or"
III-85, line 9	"board" should read "water"
III-85, line 11	"and" should read "any" "level" should read "loads"
III-86, line 11	"as I see" should read "I also see"

Reference (Page and Line)	Correction
III-75, lines 6,7	"its particular points" should read "the predicted amounts"
III-75, line 9	"when" should read "winds"
III-75, line 10	"produce, they'd" should read "could easily"
III-75, line 14	"Occident" should read "Occidental"
III-75, line 18	"suggest" should read "say just"
III-75, line 20	"as well as" should read "down at Branford as well as the"
III-75, line 21	"Ichtuchnee" should read "Ichctucknee"
III-75, line 22	"in the" should read "in view of the fact that they are near the"
III-76, line 5	"the" should read "their"
III-76, line 9	"river. I" should read "river. And I think probably we have enough pollutants in there without adding any. I'
III-76, line 12	"is" should read "were"
III-76, line 18	"they" should read "we"
III-76, line 22	"were" should read "are"
III-77, line 8	"to" should read "we could" "probably" should read "properly"
III-77, line 10	"a crop" should read "the proper"
III-77, line 15	"around." should read "around the world."
III-78, line 4	"by" should read "to buy"
III-78, lines 5,6	Sentence should read: "I hope that we will be a little bit cautious of how we let this thing proceed and think about it from several different angles."
III-78, line 10	"Mr. Wheelson" should read "Mr. Wheeldon"
III-78, line 13	"aware of" should read "well familiar with"
III-78, line 15	"son" should read "sang"
III-78, line 17	"in" should read "from"
III-78, line 19	"seven" should read "several"
III-78, line 24	"they" should read "by"
III-79, line 1	"internal" should read "the total"

Reference (Page and Line)	Correction
III-87, line 5	"keeping" should read "keeping our"
III-87, line 21	"Mr. Wood" should read "Mr. Woodard" Sentence should be added: "I'm a resident of White Springs."
III-88, line 10	"ask to" should read "asked to reserve the right"
III-88, line 12	"questions people have" should read "questions that most people have about the Suwannee River"
III-88, lines 12,13,14,15	Sentences should read: "The members of the Columbia County Environmental Council propose to let Occidental Chemical Company have all the water, I repeat, all of the water, in Swift Creek if that would help achieve zero discharge well ahead of the 1985 deadline, except of course during a catastrophic 24 hour, 25 year rainfall event. But we would also want Swift Creek returned to the people in a natural state at the end of the mining operations."
III-88, line 21	"committee" should read "any"
III-88, line 25	"EPA's" should read "EIS" "have supporting" should read "have the supporting"
III-89, line 9	"from" should read "on"
III-89, line 25	"in a draft of the" should read "and addressed in the final"
III-90, line 7	"complete" should read "completion"

RESPONSES TO SUBSTANTIVE COMMENTS
PRESENTED AT THE PUBLIC HEARING

Mr. Bill Peters, Columbia County Environmental Council (Hearing Testimony, pp. III-33 through III-36, T1. through T6)

T1. pH limitations are not included in the National Effluent Guidelines for fertilizer manufacturing plants. However, EPA Region IV has established a ph limitation of 6 to 9 standard units to insure maintenance of water quality and/or public health. Recognizing that the natural background pH of waters in the Occidental area is in the acidic range, EPA lowered the pH limit to 5.

T2. The reclamation efforts in the mined area are a typical land-lakes scheme, with the reclaimed land resembling a field and lakes having steep slopes. There will be an increase in aquatic bird species present due to the limited availability of the open lakes habitat type in the general area. An early increase in the number of species of mammals on this type of reclaimed land is not to be expected. The changes in substrate conditions and exclusion of trees of substantial acreages and age precludes the rapid recolonization of these areas by arboreal (tree dwelling) and some semi-fossorial (semi-burrowing) and fossorial (burrowing species) and therefore, decreases the number of species occurring here as compared to natural communities. However, given time and the advent of ecological succession on these sites, such as re-establishment of trees, it can be reasonably expected that these tree dwelling and semi-burrowing and burrowing species will recolonize. (See Section 2.7 of the Resource Document).

T3. There was no statistical treatment of the terrestrial vertebrate fauna in either the EIS Summary Document or the Resource Document. Indices of relative abundance were used for mammals (trapnight success) and birds (point counts giving an index of birds/hour). These indices do have limitations as pointed out in the Resource Document (Sections 2.7.3.2 and 2.7.4.3 FAUNAL COMPONENTS) and were validly used within the constraints of their limitations for relative abundance and general trends.

T4. In both the EIS Summary Document (Section 2.7.3, Terrestrial Communities of Swift Creek) and the Resource Document (Sections 2.7.3.2 and 2.7.4.3, Faunal Components), explanations are provided as to the differences in the number of species occurring on mined lands versus natural communities among the various vertebrate groups. The basic differences are habitat changes and/or degradation with subsequent elimination of the associated fauna. There is an exclusion from mined lands of deep woods, arboreal, semi-fossorial and fossorial species. There is exclusion of even some specialist aquatic species requiring an extensive shallow water area.

T5. The reason for the dramatic decrease in numbers of species of herptiles on mined lands versus natural communities is stated in the Resource Document (Sections 2.7.3.2 and 2.7.4.3, Faunal Components). The herptile survey was performed in the winter months which are not conducive to herptile fauna surveys because of their cold-blooded nature. Confirmed species in the geographical area were based on limited sight observations supplemented with the literature and personal communications with the staff of the National Fish and Wildlife Laboratory of the U.S. Fish and Wildlife Service, the Gainesville Research Station of the Florida Game and Fresh Water Fish Commission and the Florida State Museum. There are no previous studies of any reliability for herptiles on phosphate mines and thus the confirmed numbers of species were limited by winter conditions and may not actually reflect the total herptile fauna. Therefore, a suspected occurrence category(ies) was included in Table 2.7-6 of the Resource Document. Their recolonization pattern could be expected to coincide with the sequence presented form mammalian recolonization.

T6. It is true that there are fewer rare and endangered species on mined land. This is expected because this type habitat is recently altered and not particularly suited to maintenance of those species which are rare and endangered species. However, the proposed chemical plant will not affect any rare and endangered species in the area. The area has been altered due to past construction, timbering, and mining activities and is not considered as significant for rare and endangered species.

Mr. Frank Sedmera, Columbia County Environmental Council (Hearing Testimony, pp. III-37 through III-38, T7. and T8.)

T7. On September 24, 1974 an NPDES permit was issued to Occidental Chemical Company for its existing Suwannee River Chemical Complex, based on the Fertilizer Manufacturing Point Source Category guideline (40 CFR 418, subpart A, promulgated April 8, 1974). Occidental (together with other phosphate firms) challenged the guidelines in federal court and requested an adjudicatory hearing before Region IV of EPA on these and other conditions of the permit. Under the applicable regulations, the terms contested were stayed. Therefore, enforcement of the contested limitations was delayed pending resolution of the hearing request. Efforts to resolve the contested provisons of the permit, at both the national and regional level, resulted in amended effluent guidelines with less stringent limitations (Fertilizer Manufacturing Point Source Category, 40 CFR 418, subpart A, as amended May 19, 1976). An amended NPDES permit was issued for the Suwannee River Chemical Complex effective July 3, 1978 which is now enforceable by EPA. During the period after the initial permit was challenged and before issuance of the amended permit Occidental was not required to meet the contested limitations of the 1974 permit. However, Occidental was subject to compliance with water quality standards of the State of Florida Department of Environmental Regulation and all uncontested provisions of the permit, which were enforceable by both EPA and DER.

T8. Phosphates have been monitored and reported (as elemental phosphorus "P") by both the USGS and Occidental from a water quality standpoint. Comments have been made relative to discrepancies between data on phosphates between these two agencies. It should be understood that this parameter is monitored as an indicator of water quality in receiving waters and has not to date been the basis for enforcement actions either at the State or Federal level.

USGS samples are analyses performed on a single-day grab sample whereas the Occidental results are monthly averages obtained from the average of four composite samples each of which is made up of five daily samples taken during four working weeks. The sample locations and sampling times are different since the locations are approximately four miles apart and the time of day being at an undetermined but different period.

However, data obtained by these two groups relative to fluoride content of Swift Creek seem to agree with only random variations from a long-term mean.

With respect to phosphate analyses, the values obtained by Occidental generally appear to be lower than those found by the USGS. There are several potential reasons for this discrepancy. It is possible that the different sampling locations would reflect different values, although it is doubtful that this would explain the magnitude of difference. Differences in analytical technique is also a potential explanation. The USGS performs its analytical work in its laboratory located in Ocala, Florida which engages in a quality assurance program involving the interchange of samples with several laboratories. The laboratories at Occidental have not in the past engaged in a regular interlaboratory quality assurance program but have exchanged samples with the Florida Department of Environmental Regulation (FDER) in Jacksonville and have split samples with commercial laboratories within the local area. In the exchange with FDER it seemed that the phosphate levels measured by Occidental were lower than those reported by FDER. It is known that Occidental adjusted their method and subsequently exchanged samples with three commercial laboratories and obtained values both higher and lower than that found in the Occidental laboratory using the revised method.

Although future sampling programs may resolve this disparity, it remains basically unresolved. This disparity does not alter the conclusions of the EIS, particularly since the USGS data were used in the evaluation process. Occidental is willing to let the USGS data be the data of public record. EPA shares the public concern for the need for more on site verification of water quality in Swift Creek. It is emphasized, however, that phosphates in receiving waters are not involved in enforcement actions.

Mr. Archie Carr, III, Florida Audubon Society (Hearing Testimony, pp. III-44 through III-48, T9. and T10.)

T9. The primary advantage to the USA of obtaining potash from Russia in exchange for SPA as compared to purchasing this material from Canada is that this will contribute toward reducing the present negative US international balance of payments. As a result of this part of the transaction the number of dollars flowing out of the country to pay for potash will be reduced. Since SPA (in lieu of dollars) is being traded for potash this will help to reduce the downward pressure on the dollar in international trade and will contribute toward a lessening of inflation. (See Sections 3.4.6.1 and 3.4.6.2, Summary Document and corresponding sections of the Resource Document).

As shown in Section 3.4.4.3 of the Summary Document, it is estimated that there would be an energy advantage of at least 86.21 trillion BTU's per year for 20 years (the equivalent of 1.72 trillion SCF of natural gas over the 20 year period). Two assumptions are made: (1) Anhydrous ammonia, potash, and urea which will be traded for the SPA will be returned to the US, and (2) Production of all fertilizer ingredients are in the newest and most energy efficient plants. Neither of these assumptions are wholly realistic.

To clarify the first assumption, Occidental will market all shipments in the US if demand and prices are favorable. Occidental will sell the commodities where they are most profitable. However, if as much as 11.6 percent of the total ammonia, urea, and potash which Occidental receives from the trade is brought into the US (based on the data in Table 3.6-4 of the Summary Document) then there will be a net energy gain for the US. If less than 11.6 percent is brought into the US then there will be a net energy loss. On the other hand, any product sold in other countries will contribute positively to the net US balance of payments and will, in effect, bring US dollars back into US hands from foreign countries and therefore provide funds to help pay for foreign oil and other products.

Thus, even if all of the materials received by Occidental are sold in foreign markets because of higher prices there, the trade will contribute positively to the power of the dollar in international trade and US ability to purchase foreign energy sources. Indeed, if these funds are used to purchase foreign oil or products which are more energy intensive than SPA, then there will be a net energy gain even if none of the materials obtained from Russia are brought into this country.

The second assumption leads to a very conservative energy tradeoff because some US plants are of the older less efficient types. With these included, the energy advantage rises to 14.8 to one, rather than 8.6 to one advantage as shown in Table 3.4-6 of the Summary Document (Section 3.4.4.3). In this case, if 6.8 percent of the materials are received in this country it will yield a net energy gain as compared to the 11.6 percent computed from the more conservative data in the EIS.

In summary, it is almost certain that much more than the minimum 6.8 percent of the materials received by Occidental will be brought back to the US, although it is unlikely that all of it will. Therefore, there will be a net energy gain but it is not likely to be as high as 14.8 to one. If half of the materials are brought into the country the gain would be 7.4 to one, or a net gain equivalent to 1.41 trillion SCF of natural gas. This is not quite as large as the 1.72 trillion estimated in the Summary Document but it is clearly a significant net gain in energy and it is not unreasonable to expect that at least half of the materials will be returned to the US. Moreover, as noted above, that part of the materials which are sold in foreign countries will recapture US dollars now held in foreign hands which can then be used either for purchase of foreign goods or can be brought back to the US, thus reducing the present negative net balance of payments.

T10. The feasibility of zero discharge has been investigated by Occidental and the quantity of discharge has been minimized to approach zero discharge to the greatest extent practicable. The projected annual average nonprocess water discharge of 1.6 MGD is minimal when compared both to total water usage and the existing Suwannee River Chemical Complex. Process water will be completely recirculated and discharged only during catastrophic rainfall events.

Although the Swift Creek Chemical Complex has been designed for a minimal discharge, these discharges do represent an increase in loading to Swift Creek. Extensive in-plant measures will be implemented to prevent and control contamination of nonprocess water. Nonprocess water that is not contaminated, along with runoff from nonprocess areas, will be diverted to a surge pond before discharge. In general, this discharge will contain less than the EPA specified limitations of 35 mg/l P and 25 mg/l F. If contamination should occur, nonprocess water will be treated to meet EPA effluent limitations.

In an effort to further reduce loadings to Swift Creek and ultimately to the Suwannee River, a special condition has been added to Occidental's NPDES permit. Under this permit condition, an experimental program to assess the feasibility of sheet flowing nonprocess water discharges through lowland areas will be examined by Occidental, EPA, and FDER. Sheet flow of wastewaters across lowlands prior to entering receiving waters may provide an opportunity for vegetative assimilation of pollutants and could allow for a reduction in loadings to Swift Creek and the Suwannee River.

Mr. Steve Adams, Resident of Lake City, Florida (Hearing Testimony, pp. III-49 through III-53, T11., T12., T13. and T14.)

T11. Swift Creek was not presented as a pristine stream nor as unaffected by the existing Occidental discharge. Section 2.6.4.3 of the Resource Document states that Swift Creek has significantly higher concentrations of some chemical parameters, such as phosphate, fluoride, nitorgen, and sulfate, than do other area streams unaffected by phosphate mining and processing. However, diversity, equitability and Beck's Biotic Index indicate that its aquatic communities are not appreciably different from those of surrounding streams. Therefore, the associated impact to Swift Creek was not judged to be severe.

T12. Interpretation of macroinvertebrate data may be difficult due to many variables which influence both the type organisms present in a stream and their collection. Beck's Biotic Index was developed in Florida to aid in interpreting macroinvertebrate data (Beck, 1954, 1955 and 1965). It probably relates better to oxygen stress than to other potentially limiting factors. This index has been used for over 20 years and has proven useful in interpreting macroinvertebrate data from Florida streams. It is an accepted method of interpreting macroinvertebrate data because of its established use (Beck, 1954, 1955, 1965) (EPA, 1973). However, the index should be used with relatively large sample sizes which was not always possible in this study due to collection periods of limited duration. The index only considers taxa in Classes I and II and is calculated as follows: BI=2 (number of taxa in Class I) + (Number of taxa in Class II). The number of individual organisms in each class is not considered because they are subject to wide variation due to many factors. Any other usage of the categories should be attempted only with caution and preferably only after testing and correlation with established usage.

The commenter has misinterpreted the characterization of Beck's classes. Class V is not composed of very tolerant organisms as stated but rather is a class which contains only those organisms which have not been classified in any of the other four classes because of lack of sufficient data. At least 20 records for a Class V organism must be present before it can be considered for inclusion in one of the other four classes. Class IV includes air breathing forms which are independent of dissolved oxygen which makes them potentially non-indicative of pollutional stress. Therefore, they are not generally considered in determining stressed or nonstressed status (Beck, 1954).

Beck, W.M., Jr. 1954. Studies in stream pollution biology. J. of Florida Acad. of Sci. 17:211-227.

Beck, W.M., Jr. 1955. Suggested method for reporting biotic data. Sewage and Industrial 27(10):1193-1197.

Beck, W.M., Jr. 1965. The streams of Florida. Bull. Fla. State Museum. 10:91-126.

EPA, 1973. Biological field and laboratory methods for measuring the quality of surface waters and effluents. Office of Research and development. Cincinnati, Ohio. 200 pp.

T13. See Response to T1.

T14. See Response to T10.

Mr. B. Paradise, Sierra Club of Jacksonville, Florida (Hearing Testimony, pp. III-56, T15. and T16.)

T15. The August 14 study referenced was a one time survey of fluoride levels in aquatic and terrestrial systems done as a provision of the NPDES permit applicable to existing facilities, not the proposed SCCC. These data are being evaluated by EPA at this time.

The data relative to fluoride levels in oysters from the estuary samplings did not indicate higher levels in the Suwannee River estuary. Both the Steinhatchee and Crystal River estuaries oyster fluoride levels were equivalent to or higher than those from the Suwannee River in two of the three replications analyzed (Table 3.3-1, Breedlove and Associates, 1978). Statistically the three systems did not have significantly different oyster fluoride levels.

Breedlove and Associates, Inc. 1978. Fluoride concentration in the natural systems associated with the Suwannee River Chemical Complex. Gainesville, Florida. In manuscript. 85 pp.

T.16 See T6.

Mrs. Helen Hood, Florida Defenders of the Environment (Hearing Testimony, pp. III-63, T17.)

T17. This subject was covered in response T-10.

Mr. Charles Stefan, Resident of Alachua County, Florida (Hearing Testimony, pp. III-67, T18)

T18. Treatment alternatives were discussed in Section 4.3.2 of the Resource Document. In addition, by a special NPDES permit condition, Occidental, EPA, and FDER will examine the feasibility of sheeting flowing discharges through a lowland area.

The disposition of Soviet products is discussed in response T-9.

Ms. Susan Matthews representing Dr. Alex Green, University of Florida (Hearing Testimony, pp. III-74, T19.)

T19. The Prevention of Significant Deterioration (PSD) regulations established by EPA set January 5, 1975 as the baseline data for evaluating deterioration of air quality.

All air pollution sources presently permitted and operating at both SCCC and SRCC, except one auxiliary boiler, are defined as existing sources for purposes of PSD determinations.

Using these criteria, the PSD evaluation (approved by EPA on February 28, 1978) concluded that the air quality in Hamilton County is not significantly degraded.

All air quality modeling for the EIS and PSD evaluation was in accordance with guidelines established by EPA and applicable at the time the studies were conducted. These guidelines were developed to provide a sufficient factor of safety and to account for the inherent limitations of air quality models. The modeling results predict no violations of air quality standards.

Valdosta, Georgia meteorological data were compared with site meteorological data (Section 2.1.5, EIS Resource Document) and found to be very similar. The use of Valdosta, Georgia data, therefore, is not expected to introduce a bias into the results of air quality modeling.

Mr. Scott Wheeldon, Sierra Club, Gainesville, Florida (Hearing Testimony, pp. III-79, T20.)

T20. As in all other mining categories, the limitations for the phosphate mining and processing subcategory are applied on a concentration basis (mg/l) rather than a mass basis (lb/ton of product) because no correlation between water usage and production can be established. This correlation is difficult to calculate because rainfall runoff can not economically be segregated from process and nonprocess water circuits and ponds.

Mr. Charles Lee, Florida Audubon Society (Hearing Transcript, pp. III-80, T21.)

T21. See response T8.

Mrs. Carl Shifflette, Suwannee River Citizens Association (Hearing Transcript, pp. III-84, T22.)

T22. One intent of the EIS process was to determine the effect of discharges from the proposed SCCC on Swift Creek and the Suwannee River. The Draft EIS examined existing water quality in Swift Creek and the Suwannee River as well as projected water quality with the existing and proposed discharges. Estimated flows and chemical concentrations were used to predict increases in chemical concentrations in Swift Creek and the Suwannee River (Section 3.2.6). Based on these predictions, water quality standards will not be violated in Swift Creek, the Suwannee River, or the Suwannee estuary. Therefore, EPA believes that the proposed NPDES permit is adequate.

Note: Many commenters at the public hearing raised the issue of private industries discharging into the Suwannee River.

Water quality standards established by EPA and FDER allow industries to discharge effluents into streams. These water quality standards take into account the assimilative capacity of the receiving waters. To assure that the addition of pollutants will not cause water quality problems, new source industries must perform environmental studies to determine the impact of proposed discharges. In addition, water quality standards are periodically reviewed to insure that water quality is indeed protected.

Effluent guidelines have been established that regulate the amounts of pollutants discharged by an individual industry. These effluent guidelines are contained in the NPDES permit and are enforced by FDER and EPA.

It is EPA's intention to permit only those discharges that meet effluent guidelines and water quality standards. Occidental's discharges from the proposed SCCC will not violate effluent guideline conditions or cause significant increases in the ambient concentrations in Swift Creek or the Suwannee River (Table 3.2-2, 3.2-4, and 3.2-5, Summary Document).

However, EPA recognized that while effluent guidelines will not be violated by the proposed SCCC, loadings to Swift Creek will be increased. Therefore, EPA has proposed an NPDES permit with more stringent limitations. When the 140 acre settling pond known as the Section 10 Lake is used as a part of the treatment system, the following limitations will apply: a daily maximum of 10 mg/l total phosphorus, and 10 mg/l fluoride.

After receiving comments from FDER, interested groups and concerned citizens, EPA has added a special condition to the permit to require Occidental to examine the feasibility of sheet flowing effluents through a designated lowland area.

The agency agrees with commenters who stated that Occidental should make every effort to assure that pollutant loadings do not increase. A tightened maintenance program at the existing facilities and continuous maintenance from start-up at the new plant could reduce loadings.

Frank Sedmera for the ①
Columbia Cour Environmental Council

Thank EPA, DER, SFCR, Oxy for making the hearing possible!

Thank Oxy for allowing the field trip Sat Aug 19.

②

We are active in this issue because we want to protect the Suwannee. We do not believe that Oxy must shut down in order to do that. We believe that protection can be achieved if Oxy will seriously make the effort to do the last little bit that is necessary.

④

The EIS is large. Vulnerable just because of its size. Easy to "nit pick". We will not do that. Will focus on 3 significant problems and then indicate where it is especially good. We did not look at the issues of radiation or economics in enough detail to have an opinion.

⑤

EIS particularly strong in the section on water chemistry although the opinions don't really follow from the data given.

EIS also very good in section on physical qualities air quality and we have no major arguments with that sections.

⑥

We will:

1. Show that Oxy has not even come close to meeting the 1974 permit conditions, contrary to what Oxy has been assuring the public for years now
2. Reinforce the water chemistry data by presenting in something more like laymens language
3. Discuss water chem and set stage for

⑦

~~[illegible] about~~ another presentation that will show that the bio systems of S.C. are indeed stressed and in trouble, CONTRARY to concl. of EIS using EIS data.

⑧

4. Point out the need for much more on-site verif of condit. by EPA + DEQR

⑨

"Evidence for
Oxy not meeting 1974 permit
Rqmts"

The EIS calculated average mass loadings in Swift Creek over a period of time and presented that info. alongside the mass loadings that would have occurred if the modified NPDES permit were barely being met. The numbers are nearly identical, even though SC mine was in

Evidence For Oxy Not Meeting 1974 Permit Rqmts

$21.4 \times 10^6 \frac{gal}{day}$ avg. disch. from both mines and the SR Chem Plant

$$21.4 \times 10^6 \frac{gal}{day} = 78.7 \times 10^6 \frac{l}{day}$$

avg. Tot. P allowed under modified permit $35 \frac{mg}{l}$

$$78.7 \times 10^6 \frac{l}{day} \left(35 \frac{mg}{l}\right) = \boxed{2758\ kg/day\ \cancel{tot}\ P} \approx 3\ tons/day$$

$\boxed{\text{EIS measures 2300 kg/day tot P}} \approx 2.5$ tons/day

$\boxed{\text{We took USGS data and calculated 2739 kg/day at Facil 4/77 – 4/78}}$

Now, the $21.4 \times 10^6 \frac{gal}{day}$ flow is supposed to be the avg. flow for both mines and the SR Chem. Complex but the S.C. Mine was not in operation during the time when the USGS data was taken (in our avg.). We are seeing a mass loading only from the SR mine and Chem. Plant that is equal to that "allowed" for that plus the S.C. Mine under the modified permit. Our data period was under the 1974 permit and without the S.C. Mine in operation.

FIGURE 1

1 Squares to the Centimeter

⑩

operation for on a brief portion of the period of data. We did similar calc. and arrived at similar conclusions. The 1974 permit allowed only 1/3 the P (max) that the modified permit allowed as avg. Oxy has been routinely discharging at 3X the max P as allowed under the 1974 permit.

See Fig 1

⑪

Laymen's View of Water Chemistry"

Water chemistry is mostly just numbers to most people. We have calculated W. Ch. numbers for S.C, the Suwannee, Rocky Creek and others and believe we see problems. We shall submit a written statement to EPA and DER that is technical in nature. Tonight we want the audience to have some feeling for

⑫

what will be in our technical statement.

In the Feb. hearing we made the point that S.C. is not a normal N. Fla. creek anymore, because of the Oxy discharges. We compared it with R.C., using Aug 76 USGS data. We have done that again, using data 10/70 → 6/76. See Fig 2,3

Concentrations of P in S.C. are 7 → 615X those in R.C.

⑬

Concentrations of NH_3 in S.C. are 19 → 500X those in R.C.

Now P and N are primary plant food materials. They are necessary for life in a stream. But R.C. and other N. Fla. creeks are supporting living systems. While there is evidence that some more P and N are desirable,

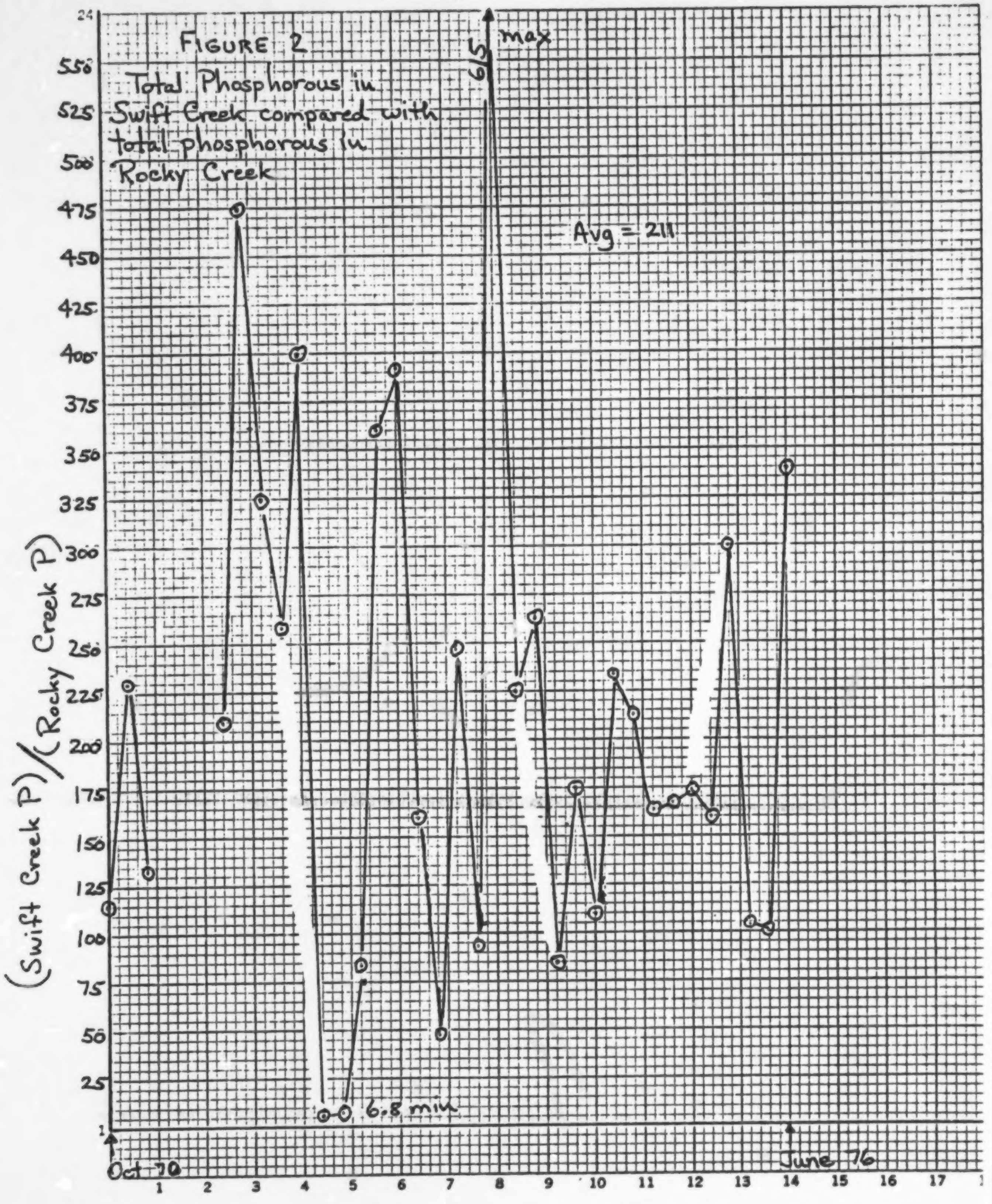


FIGURE 2

Total Phosphorous in Swift Creek compared with total phosphorous in Rocky Creek

5 Squares to the Centimeter

FIGURE 2

	Total Phosphorous in Swift Creek mg/l	Total Phosphorous in Rocky Creek mg/l	(Swift Creek)/(Rocky Creek)
6/70	9.1	0.08	114
/9/70	16.0	0.070	229
/4/71	12.0	0.090	133
/27/71			
/23/71			
8/19/71			
7/10/71	23.0	0.110	209
12/7/71	19.0	0.04	475
2/14/72	6.5	0.02	325
4/25/72	16.0	0.062	258
6/27/72	14.0	0.035	400
8/23/72	1.3	0.190	6.8
10/10/72	14.0	0.20	7.0
12/4/72	21.0	0.25	84
2/7/73	7.2	0.020	360
4/3/73	9.8	0.025	392
6/5/73	9.6	0.06	160
8/8/73	7.1	0.15	47

	Total Phosphorous in Swift Creek mg/l	Total Phosphorous in Rocky Creek mg/l	(Swift Creek)/Rocky Creek
10/2/73	15.8	0.064	247
12/7/73	14.0	0.150	93
2/13/74	40	0.065	615
4/3/74	18	0.080	225
6/4/74	42	0.160	263
8/7/74	17	0.20	85
10/8/74	30	0.17	176
12/4/74	11	0.11	110
2/6/75	9.3	0.04	233
4/1/75	8.5	0.04	213
6/2/75	18	0.11	164
8/12/75	15	0.09	167
9/30/75	26	0.15	173
12/9/75	24	0.15	160
2/3/76	15	0.05	300
4/6/76	8.3	0.08	104
5/3/76	25	0.26	100
6/3/76	17	0.05	340

$\frac{6968}{33} = \boxed{211}$ avg ratio

Squares to the Centimeter

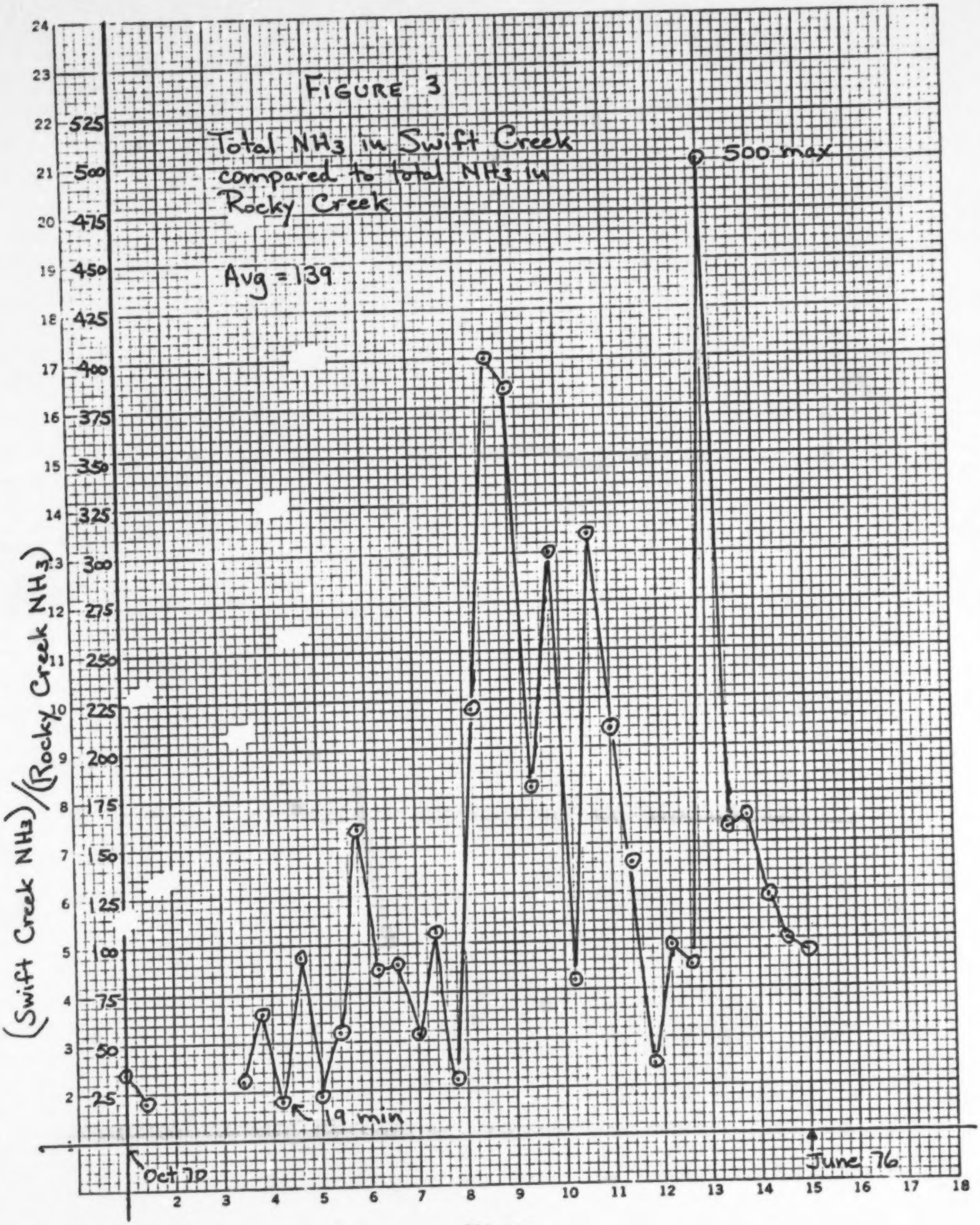


FIGURE 3

Total NH_3 in Swift Creek compared to total NH_3 in Rocky Creek

Avg = 139

… to the Centimeter

FIGURE 3

	Total NH_3 in Swift Creek mg/l	Total NH_3 in Rocky Creek mg/l	$\frac{\text{(Swift Creek)}}{\text{Rocky Creek}}$
10/6/70	2.1	0.16	35
12/9/70	1.5	0.08	19
2/4/71			
4/27/71			
6/23/71			
8/19/71			
10/7/71	1.8	0.06	30
12/7/71	8.4	0.13	65
2/14/72	2.9	0.15	19
4/24/72	2.8	0.03	93
6/26/72	1.1	0.05	22
8/22/72	2.8	0.05	56
10/10/72	4.8	0.03	160
12/4/72	2.6	0.03	87
2/6/73	5.4	0.06	90
4/5/73	1.6	0.03	53
6/5/73	5.3	0.05	106
8/8/73	0.57	0.02	29

	Total NH_3 in Swift Creek mg/l	Total NH_3 in Rocky Creek mg/l	
10/2/73	4.4	0.02	220
12/7/73	4.0	0.01	400
2/13/74	23	0.06	384
4/3/74	7.2	0.04	180
6/4/74	9	0.03	300
8/7/74	1.6	0.02	80
10/8/74	6.2	0.02	310
12/4/74	2.1	0.01	210
2/6/75	4.2	0.03	140
4/1/75	2.6	0.07	37
6/2/75	4.9	0.05	98
8/12/75	4.4	0.05	88
9/30/75	10	0.02	500
12/9/75	11	0.07	157
2/3/76	6.5	0.04	163
4/6/76	7.4	0.06	123
5/3/76	6.0	0.06	100
6/3/76	4.7	0.05	94

$\frac{4448}{32} = \boxed{139}$ avg

5 Squares to the Centimeter

⑭

excessive levels of P and N can cause problems just as overfertilization of a lawn or garden or field can cause problems. The EIS reports that 0.1 mg/l P is about as much as can be effectively used by a stream. We see numbers in S.C. 11 → 230X that.

The EIS concludes that the

⑮

concentrations are certainly high enough that biological problems are expected. BUT the EIS concludes that no biological problems could be found. You will hear a qualified biologist use EIS data to show that S.C. is indeed biologically stressed, contrary to the EIS conclusion.

⑯

The EIS also concludes that there must be some unknown "limiting factor" or "protective barrier" that is preventing biological damage under these very high levels of P and N. The consultants admit that they do not understand what that protection is. They hypothesize about dark water and fast flow. The point is, we don't know what is

⑰

stopping the damage from being really bad. You will hear that the systems do indeed show signs of stress. They are in trouble.

NOW, what effect does S.C. have on the Suwannee?

Ref Fig. 4

Let's look at the Suwannee

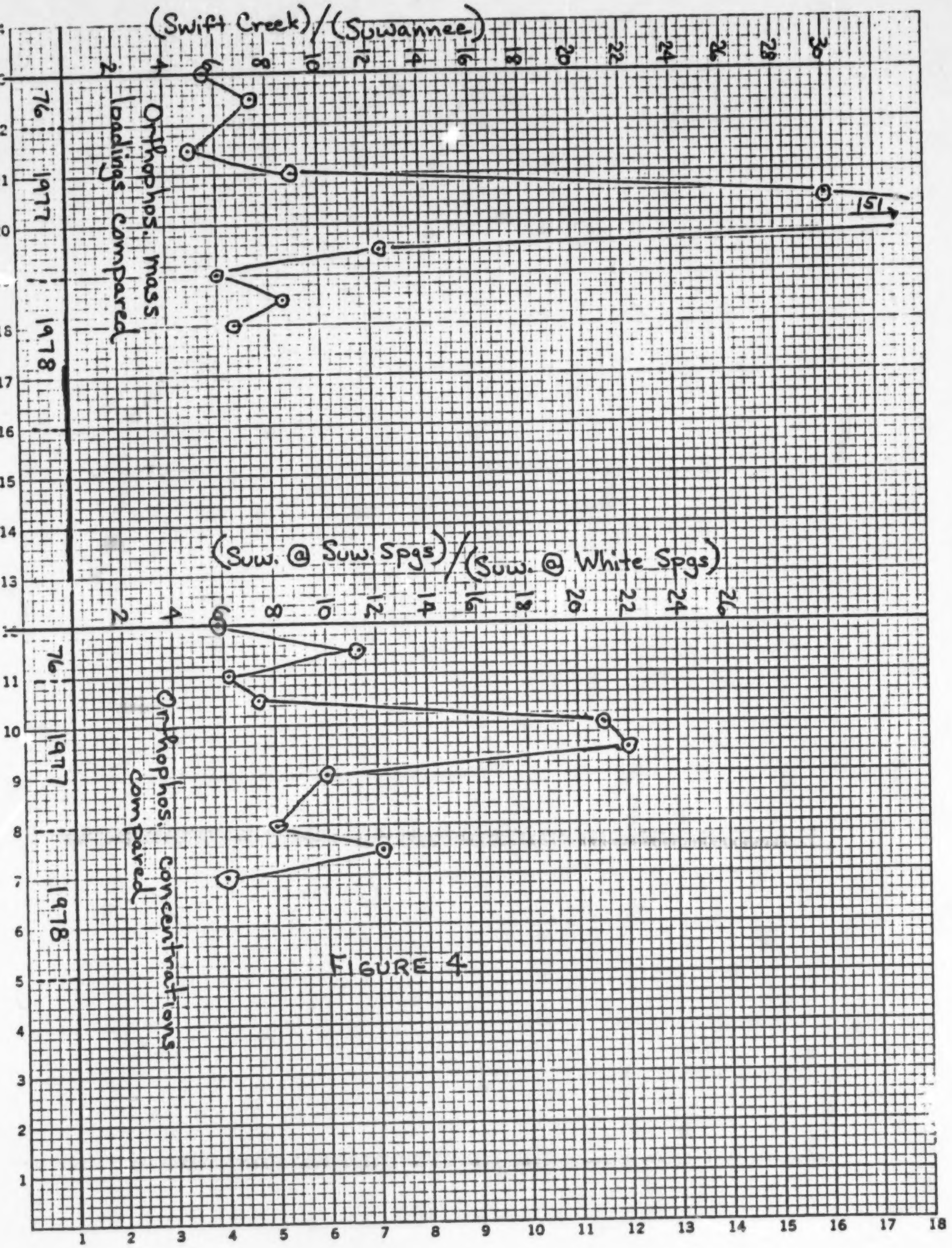


FIGURE 4

5 Squares to the Centimeter

Orthophos. as P

	Suwannee at White Spgs. gm/sec	Swift Creek at Facil gm/sec	(S.C.)/(S.R.)	Suwannee at White Spgs mg/l	Suwannee at Suwannee Spgs mg/l	(S@S.S.)/(S@W.S.)
10/5/76	3.24	18.1	5.6	0.08	0.47	5.88
11/30/76	6.78	49.5	7.3	0.06	0.68	11.3
2/1/77	6.9	33.7	4.9	0.05	0.31	6.2
4/13/77	2.28	20.8	9.1	0.09	0.66	7.33
6/6/77	0.4	11.8	30	0.19	4.0	21.1
8/1/77	0.2	30.6	151	0.31	6.9	22.3
10/4/77	3.03	37.4	12.3	0.17	1.7	10
12/12/77	4.86	29.0	6	0.09	0.71	7.9
2/6/78	6.1	52.3	8.6	0.05	0.61	12.2
4/10/78	5.94	40.0	6.7	0.12	0.73	6.1

FIGURE 4

5 Squares to the Centimeter

NH_3 as N

	Suwannee at White Spgs gm/sec	Swift Creek at Facil gm/sec	(S.C.)/(S.R.)	Suwannee at White Spgs mg/l	Suwannee at Suwannee Spgs mg/l	(S@S.S.)/(S@W.S.)
10/5/76	2	5.2	2.6	0.05	0.10	2
11/30/76	3.4	25	7.4	0.03	0.19	6.3
2/1/77	4.1	19	4.6	0.03	0.11	3.7
4/13/77	1.8	6.3	3.5	0.07	0.26	3.7
6/6/77	0.04	4.6	110	0.02	0.17	8.5
8/1/77	0.013	13	1000	0.02	1.4	70
10/4/77	1.1	32	29	0.06	0.08	1.3
12/12/77	2.2	12	5.5	0.04	0.18	4.5
2/6/78	3.7	20	5.4	0.03	0.24	8
4/10/78	4	20	5	0.08	0.29	3.6

FIGURE 5

5 Squares to the Centimeter

Orthophosphorous as P

Date	Suwannee Dowlin mg/sec	Suwannee @ White Sp. mg/sec	Swift Creek @ Facil	Suwannee @ Suwannee Sp.	(Swift Creek)/Suw. @ W.S.	Swift Creek + Suwan. @ W.S	Swift Creek @ Facil Avg = 2795 kg/day	=3.[illegible] tons/day
10/5/76	1.19×10^{3}	3.24×10^{3}	1.31×10^{4}	1.97×10^{3}	5.6	3.13×10^{4}	1564	
11/30/76	4.41×10^{3}	6.78×10^{3}	9.95×10^{4}	[illegible]	7.3	[illegible]	4276	
2/1/77	2.2×10^{3}	6.9×10^{3}	3.37×10^{4}	[illegible]	4.9	[illegible]	2912	
4/13/77	9.6×10^{2}	2.25×10^{3}	[illegible]	[illegible]	9.1	[illegible]	1797	
6/6/77	2.49×10^{2}	[illegible]	1.[illegible]	[illegible]	3.0	[illegible]	1020	
8/1/77	6.22×10	2.02×10^{2}	[illegible]	[illegible]	15.1	[illegible]	2644	
10/4/77	2.1×10^{2}	3.03×10^{3}	3.74×10^{4}	2.[illegible]	12.3	[illegible]	3231	
11/7/77								
12/12/77	1.45×10^{3}	4.86×10^{3}	25×10^{4}	[illegible]	6	[illegible]	2506	
2/6/78	2.36×10^{3}	6.1×10^{3}	[illegible]	[illegible]	8.6	[illegible]	4519	
4/10/78	[illegible]$.79 \times 10^{3}$	[illegible]	[illegible]	[illegible]	6.7	[illegible]	3456	

Avg = 27[illegible] kg/day = [illegible] tons/day

Fluoride

Date	Suwannee @ Benton mg/sec	Suwannee @ White Sp. mg/sec	Swift Creek @ Facil mg/sec	Suwannee @ Suwannee Sp. mg/sec	(Swift Creek)/Suwann @ W.S.	Swift Creek + Suwann @ W.S. mg/sec	
10/5/76	$3.$[illegible]$\times 10^3$	8.1×10^3	4.5×10^3	8.4×10^3	.56	12.6×10^3	
11/30/76	2.94×10^4	2.3×10^4	2×10^4	2.5×10^4	.87	4.3×10^4	
2/1/77	1.1×10^4	2.8×10^4	1.1×10^4	3.2×10^4	.39	3.9×10^4	
4/13/77	2.4×10^3	5.1×10^3	5.4×10^3	$1.$[illegible]$\times 10^4$	1.1	1.05×10^4	
6/6/77	2.3×10^2	4.2×10^2	4.4×10^3	9.4×10^4	10.4	$4.$[illegible]$\times 10^4$	
8/1/77	8.5×10^1	1.95×10^2	1.2×10^4	1×10^4	60	1.2×10^4	
10/4/77	1.6×10^3	3.6×10^3	1.2×10^4	1.4×10^4	3.3	$1.$[illegible]$\times 10^4$	
11/7/77							
12/12/77	9.7×10^3	1.1×10^4	1.6×10^4	2×10^4	1.5	2.7×10^4	
2/6/78	3.5×10^4	3.7×10^4	1.4×10^4	$5.$[illegible]$\times 10^4$	[illegible]	5.1×10^4	
4/10/78	7.1×10^3	9.9×10^3	1.1×10^4	2.5×10^4	1.1	[illegible]	

NH$_3$

Date	Suwannee @ Benton mg/sec	Suwannee @ White Sp mg/sec	Swift Creek @ Facil mg/sec	Suwannee @ Suwannee Sp mg/	(Swift Creek)/Suwannee @ W.S mg	Swift Creek + Suwannee @ W.S mg/sec
10/5/76	1.6×10^3	$2.$[illegible]$\times 10^3$	5.2×10^3	4.2×10^3	2.6	7.2×10^3
11/30/76	4.4×10^3	3.4×10^3	2.5×10^4	1.7×10^4	7.4	2.8×10^4
2/1/77	3.3×10^3	4.1×10^3	$1.$[illegible]$\times 10^4$	1.7×10^4	4.6	2.3×10^4
4/13/77	2.4×10^3	1.8×10^3	6.3×10^3	1.2×10^4	3.5	$.81 \times 10^4$
6/6/77	4.5×10^1	4.2×10^1	4.6×10^3	1.5×10^3	110	4.6×10^3
8/1/77	5.7×10^1	1.3×10^1	1.3×10^4	$7.$[illegible]$\times 10^3$	1000	1.3×10^4
10/4/77	1.6×10^3	1.1×10^3	[illegible]$\times 10^4$	1.9×10^3	29	3.3×10^4
12/12/77	1.9×10^3	2.2×10^3	1.8×10^4	[illegible]	5.5	1.4×10^4
2/6/78	3.5×10^3	3.7×10^3	2×10^4	3.1×10^4	5.4	2.4×10^4
4/10/78	2.9×10^3	[illegible]	[illegible]	1.7×10^4	[illegible]5	2.4×10^4

(18)

and get some feel for the effect S.C. has on S.R.

Mass loadings of P

4.9 – 151 X

Concentrations of P above and below S.C.

6 – 22 X

Is this bad for the Suwannee? Not clear now but you will hear

(19)

from a commercial fisherman who has records of a dramatic decline in S.R. fishery over many years.

Look at NH_3 as N

Mass loadings 2.6 → 1000X

Concent. 1.3 → 70X

Fig 5

(20)

"Need For On-Site Verif."

We used the Freedom of Info act to get copies of monthly reports that Oxy submitted to EPA for the 1974 permit, while Oxy was legally blocking enforcemen

We have compared P and F data with available data on S.C. and note a strange thing. There are no known significant sources or sinks

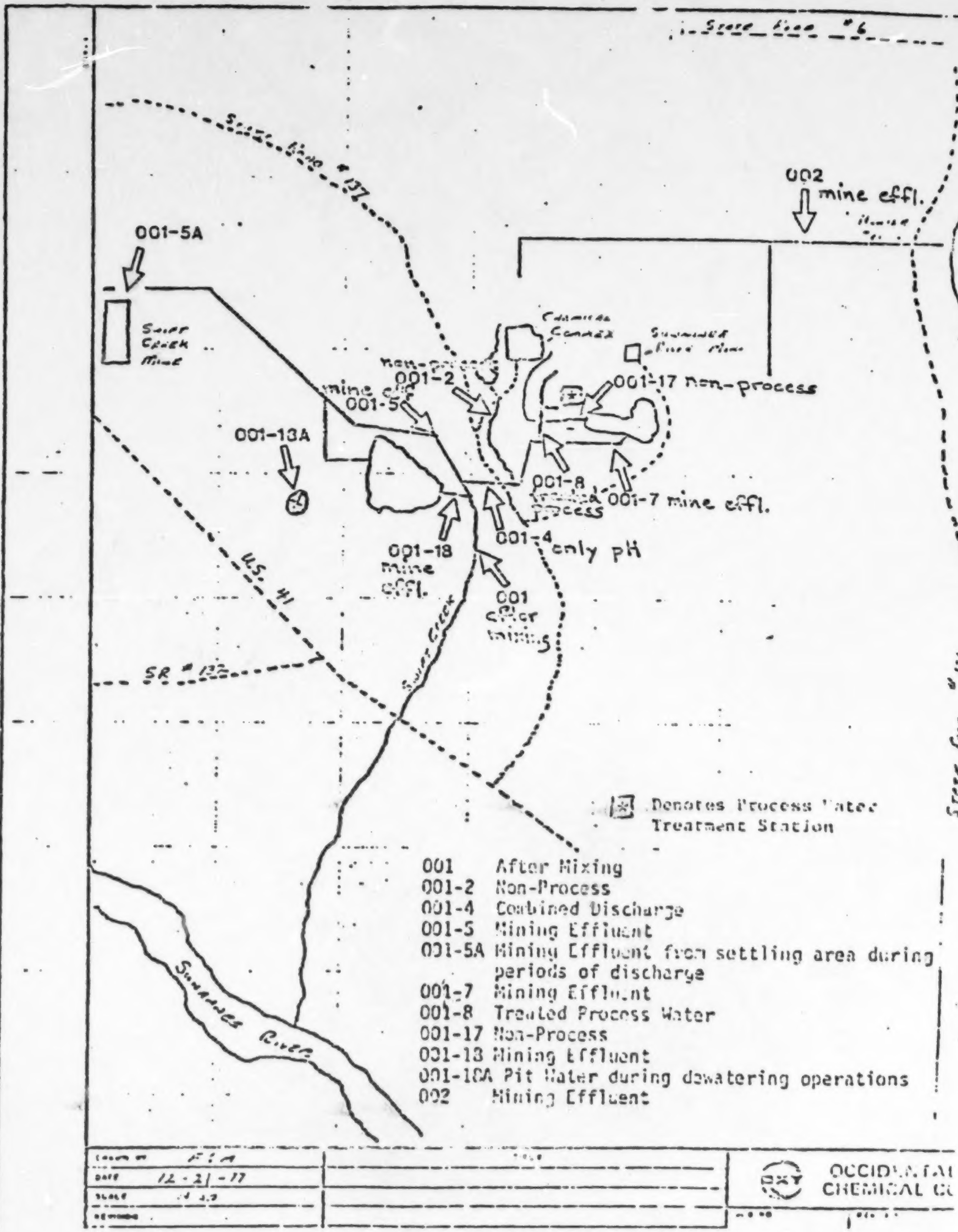
(21)

of P or F between station 001 and the USGS station

USGS P all much higher than what Oxy "found"

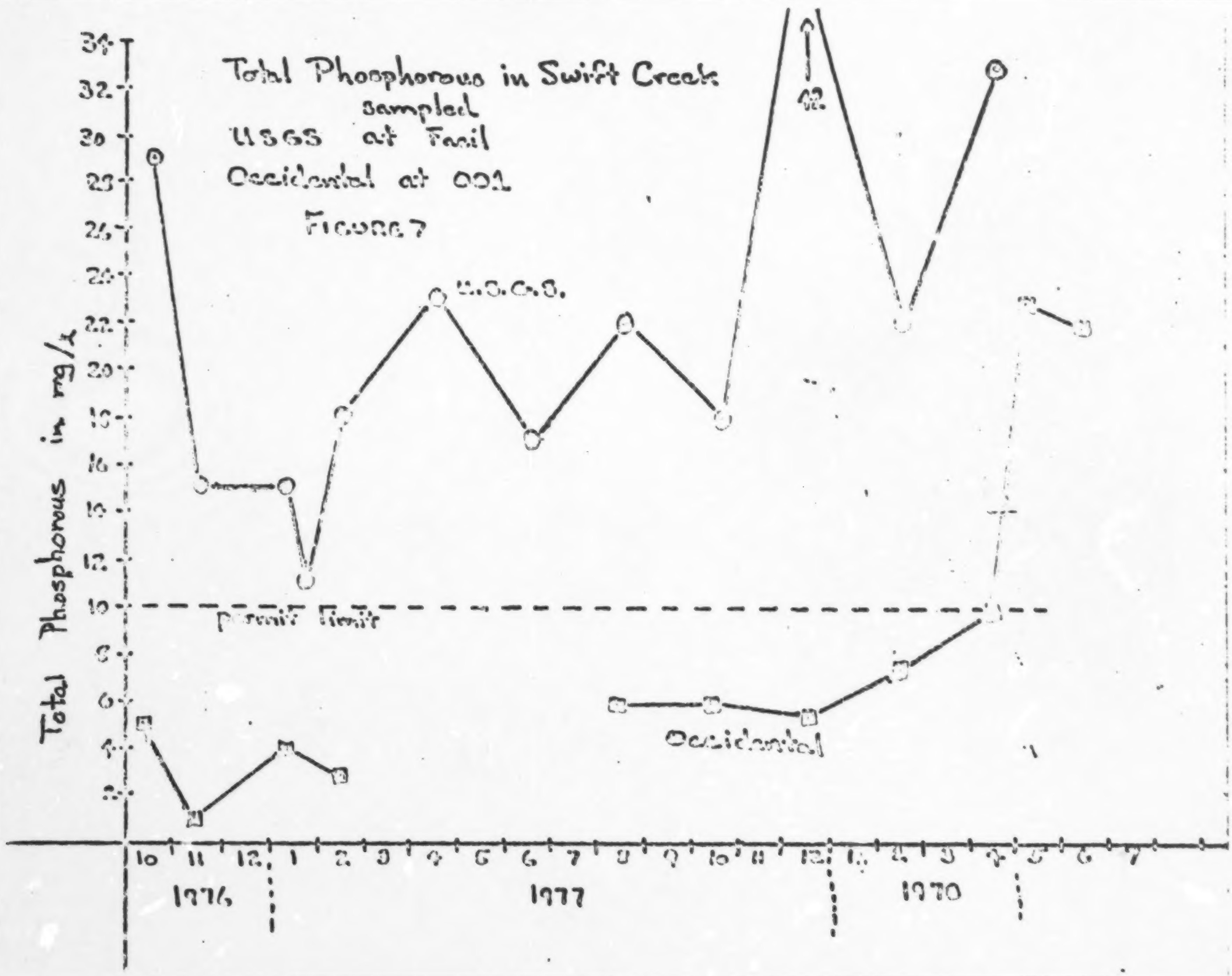
BUT USGS F nearly always somewhat lower but certainly comparable EXCEPT 12/77

ALSO Oxy began to find more P beginning 5/78.


State Line #6
State Line #137
002
mine effl.
001-5A
Swift Creek Mine
Chemical Complex
Suwannee River Mine
non-process
001-2
mine effl.
001-5
001-17 non-process
001-13A
001-8
treated process
001-7 mine effl.
001-4 only pH
001-18
mine effl.
001
after mixing
U.S. 41
SR #136
Swift Creek
Suwannee River
State Line #136
Denotes Process Water Treatment Station
001 After Mixing
001-2 Non-Process
001-4 Combined Discharge
001-5 Mining Effluent
001-5A Mining Effluent from settling area during periods of discharge
001-7 Mining Effluent
001-8 Treated Process Water
001-17 Non-Process
001-13 Mining Effluent
001-13A Pit Water during dewatering operations
002 Mining Effluent
F.I.A
DATE 12-21-77
SCALE
TITLE
OXY
OCCIDENTAL
CHEMICAL CO

	USGS for Swift Creek at Facil			Monthly report y Occidental for station 001 (Swift Creek)					
				Total P			Fluoride		
	Total P mg/l	Fluoride mg/l	pH	min	mean	max	min	mean	max
10/4/76	29	7.2	6.4	2.3	3.2	4.5	4	5.5	7
11/30/76	15	4.4	6.5	0	.4	1.0	7	8	10
1/4/77	15	3.5	6.2	2.6	3.3	3.9	5	6	8
1/31/77	11	3.5	6.5	2.6	3.3	3.9	5	6	8
2/28/77	13	3.4	6.7	2	30	3	4	5	6
4/13/77	23	6.0	6.7						
6/6/77	17	6.0	6.5						
8/1/77	22	7.7	6.3	3.9	4.6	5.9	5	6.2	8
10/3/77	13	4.8	6.5	4.2	5.0	5.9	5	5.8	6
12/12/77	42	21	4.6	2.6	4.0	5.5	7	8	10
2/6/78	22	8.7	6.3	3.6	5.8	7.5	1	5.7	10
4/10/78	33	8.8	6.8	4	8	10	4	6	8

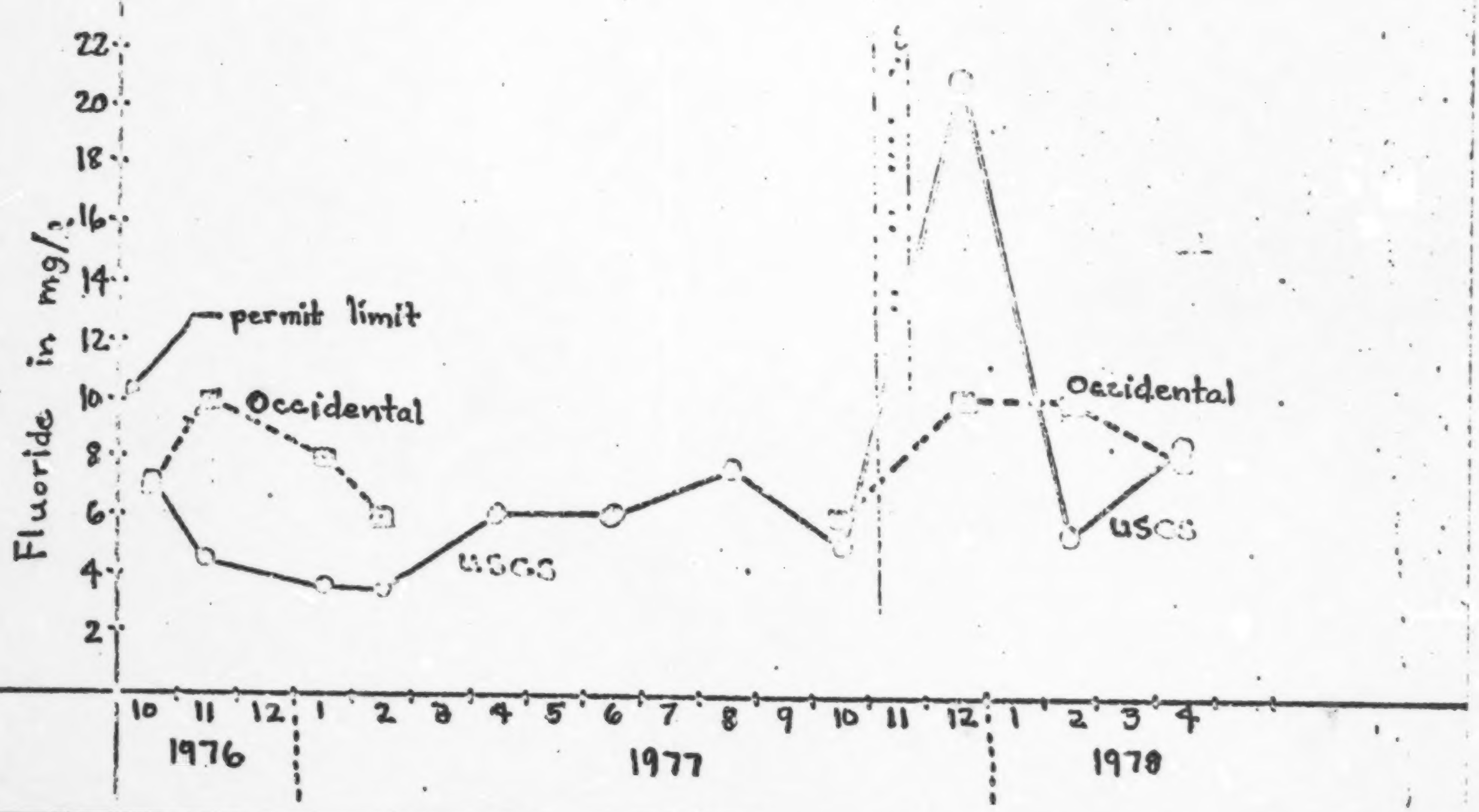
FIGURE 6



Total Phosphorous in Swift Creek
sampled
USGS at Fail
Occidental at 001
Figure 7

Fluoride in Swift Creek
sampled
USGS at Facil
Occidental at 001

FIGURE 8



Oxy chief admits pollution coverup

7/13/78

By **DEBBIE NORTON**

Occidental Chemical Company could face criminal and civil penalties for violating government restrictions on fluoride emmissions at one of its three White Springs plants, a spokesman for the state Department of Environmental Regulation (DER), said.

According to a letter informing DER of the violations from M.P. MacArthur, new vice president and general manger of Occidental, the violations apparently were condoned by the former management and only changed after MacArthur was appointed this spring.

The letter, written in May, said decisions "apparently made by prior management" were made to cover up frequent fluoride pollution violations made between December 1976 and April 7, 1978, with inaccurate reports.

Doug Dutton, chief of the DER substation in Jacksonville, said the company could be forced to pay up to $5,000 for each day the plant was in violation of DER's regulations

"I don't anticipate that, but there will definitely be some type of enforcement action taken," Dutton added.

Occidental, which was also violating the federal regulations on fluoride emissions, could also face punishment from the Environmental Protection Agency.

Dutton also said the management of the company would have had to have known about the violations for them to have occurred.

"It seems difficult to me that they (the violations) would have been accidental," Dutton said. "There would have had to have been some type of management decision. At what level, we're still trying to determine."

The violations were discovered last April after Occidental performed an internal audit of its fertilizer plants.

Occidental shut down the plant which was emitting more fluoride than allowed and voluntarily informed DER of the violations.

The plant was reopened Tuesday after DER gave the company a new permit to operate based on corrections made in the emmissions of the pollutant.

Occidental public relations officer Ray Kirkland insisted, though, that the plant was in violation of DER regulations only "from time to time" and that management could well have been unaware of them.

"There is every possibility that the internal audit (of pollutants) done prior to the one this year could have been made during a time when the plant was operating within the parameters (of fluoride emission standards)."

MacArthur took over as general manager of Occidental on March 1, replacing Maywood Chesson, who now works for the Mississippi Chemical Co. near Lakeland.

Louis Hubener, in the legal department of DER, is in charge of an ongoing investigation that is now reviewing technical reports and data to determine more details on the extent and cause of the violations. He said the law provides for both criminal and civil penalties, depending on the circumstances. He noted that Occidental "wants to cooperate as much as it can."

The letter noted that the plant, one of three at the Occidental complex,

(Turn to OXY, P-12)

Continued Story

Oxy

was shut down on April 7 after a review of the operations revealed the discrepancy in reports. A meeting was held in Houston with the parent company, Hooker Chemical Co., and the decision was made to shut down the plant, which makes diammonium phosphate, a fertilizer. Occidental had been exceeding the state requirement that fluorides emissions not exceed 34 pounds in a 24-hour period.

The plant was reopened in 24-hour period.

Dutton said DER officials observed Occidental testing operations that indicated proper emissions of fluorides and other chemicals. But after the tests were over, Occidental changed the flow of acid into the plant, which resulted in the emissions violations.

MacArther wrote that the "compliance monitoring tests" run by Occidental and sent to DER were based on different conditions than normal operating conditions of the plant.

"Well-intentioned, certain employees of Occidental Chemical participated in or knew of the actions . . . ," the letter read. "Some of these employees are no longer with Occidental Chemical. Those other employees who are still with the company will be subject to appropriate disciplinary action after my review for not carrying out the company's environmental policy."

Dutton said the reports to DER came in on a monthly basis. He said the incident has pointed up the need for more double-checking by the state on reports provided to the state by the industry holding a state pollution permit. "There's no way with the resources we have," he said. "It's impossible for us to monitor the type of monitoring we require of these companies."

Dutton said at one point that the back-up monitoring being done by DER "probably would have detected" the emissions violations anyway, but he added, "If they're going to cheat, you can't cover everything."

"We observed the testing procedures ourselves and there was nothing wrong with the emissions at the time of testing. But they just weren't operating under the same conditions," he said.

MacArthur wrote that Occidental will provide monthly audits plus verification by an outside consultant on its operation until "management is assured that the company's environmental policy is being fully carried out."

Fluoride is the same chemical put into many public water supplies to help reduce tooth decay, but its dispersal into the environment is limited by state and federal laws because it becomes a poison, accumulating in organisms in much the same way as DDT over a long period of time. Too much fluoride is said to cause weakening of teeth and bones, and opponents of putting fluoride in public drinking water say it can cause cancer.

(22)

Refer to the news article in L.C. paper of 7/13/78. We make no charges of another cover-up since we have no proof. What we do want to remind you of is that we expressed concern that DER only made inspections approx twice a year and that they were usually pre-announced. We learned that EPA may never have

(23)

come to verify conditions. DER assured us (at the Feb hearing) that a cover-up would not be possible for very long. Here is one that reportedly went on for some 16 months

FRANK E. PHILPOTT
P. O. BOX 331
GAINESVILLE, FLORIDA 32602

August 21, 1978

The U. S. Environmental Protection Agency
The Florida Department of Environmental Regulation
White Springs, Florida

Gentlemen:

I am Frank E. Philpott, Gainesville, Florida, and Chairman of the Suwannee River Authority, but I do not appear before you in that capacity tonight.

Rather, I speak as a private citizen who loves the Suwannee River, and who would prefer to see it not cluttered with developments and industries along its banks. These in abundance lower the quality of living for everyone.

I am particularly concerned that Occidental Chemical Company has been guilty in court cases concerning the violation of pollution standards. We divine the future by reading the past. And this past is not good for the protection of the Suwannee River.

I am concerned, too, that Occidental is taking a leading role in seeing that the Suwannee River does not become an "Outstanding Florida River." At the Florida Environmental Regulation Commission meeting in July, it appeared to me that Occidental tried to get a two-year delay in final acceptance of the Suwannee River as an "Outstanding Florida River," and that if certain conditions are not met, the River would revert to no status as an "Outstanding Florida River." That does not represent to me that Occidental is on the side of Floridians in this matter.

A third concern of mine is that the Environmental Protection Agency proposes relaxing Federal water cleanup rules to save $200 million for 36 industries. Just one company, Occidental, having two 20 billion dollar contracts with Russia and Poland, doesn't appear to need its share of this saving as much as America needs cleaner water, and that goes for the rest of these multi-million dollar companies.

In conclusion, I wish the Occidental Chemical Company had not obtained 144,000 acres on the beautiful and historic Suwannee River to continue to use millions of gallons of water daily, to burden our River with pollutants, and to hamper our efforts to have the Suwannee River designated as an "Outstanding Florida River." But now that Occidental is here, let us see that it becomes the good neighbor that we can respect and trust.

Very sincerely yours,

Frank E. Philpott

Frank E. Philpott

FLORIDA DEFENDERS OF THE ENVIRONMENT, INC.
622 N. Main
Gainesville, Florida 32601

STATEMENT: Public Hearing, White Springs, Florida August 21, 1978

Environmental Impact Statement, Occidental Chemical Company,
Expansion of Swift Creek Chemical Complex

My name is Helen Hood. I live at 4025 SW 18th Street, Gainesville, Fl 32608. I am representing Florida Defenders of the Environment, a statewide volunteer organization of specialists who seek the facts needed to make wise environmental decisions. I have worked for FDE for seven years, focussing my attention on land preservation and protection all over the state.

We recognize the Suwannee River Basin as the outstanding natural resource of this region. As an extremely complex ecological system, it is the foundation of life support for the people of the region. Because it is intimately tied to the Floridan aquifer, and by its estuarine system to the Gulf fishery, the river has a role in life support for much of the state. Nationally, it has been recognized in several reports as a significant resource. Our interest in the Suwannee River is the long term preservation of its outstanding characteristics as an ecological system.

Although the EIS postulates that this proposed expansion of the Swift Creek Chemical Complex does not add a heavy new load of chemicals to the river, it is not the only - nor the last - source of pollution of the Suwannee. Our experience with NPDES impact studies has revealed several deficiencies in their format: there is no scrutiny of the long term effects of daily pollutant discharge, nor of the cumulative effects of a a number of discharges, and there is cursory consideration of the effects on the entire system. The EIS, although it demonstrates that the existing pollutant load of approximately 40 tons a day and the projected additional load of 2.5 tons a day are just within the legal limits, does not establish to our satisfaction that the Suwannee System, including the estuary, will not be damaged over the life of the plant. Because it is not known what the critical limits of pollutants are, or when they will be reached, those who are really concerned about the future of the Suwannee River must strive for no discharge of pollutants. Efforts toward zero discharge to meet the ultimate goal of the Water Quality Act by 1985 should begin now, for they will only be more difficult and more expensive in the future.

I have recently served on the Governor's Special Committee on Management Needs for the Suwannee River, along with twenty others from local and state government agencies and the private sector, including the General Manager of Occidental Chemical Company. The Committee's Position Statement states that "...the overall goal of any Suwannee River management program should be to prevent any further degradation..." The Committee recognized that its stated goals and objectives can best be accomplished through a formal comprehensive program, involving all levels of government and all affected private interests. Therefore, Florida Defenders of the Environment asks that the Environmental Protection Agency, the Department of Environmental Regulation, and the Occidental Chemical Company, in their concern for the same goal for the Suwannee River, look more intensively at alternatives for zero discharge of effluents from the new facility and at the feasibility of reducing the discharge from the existing facility.

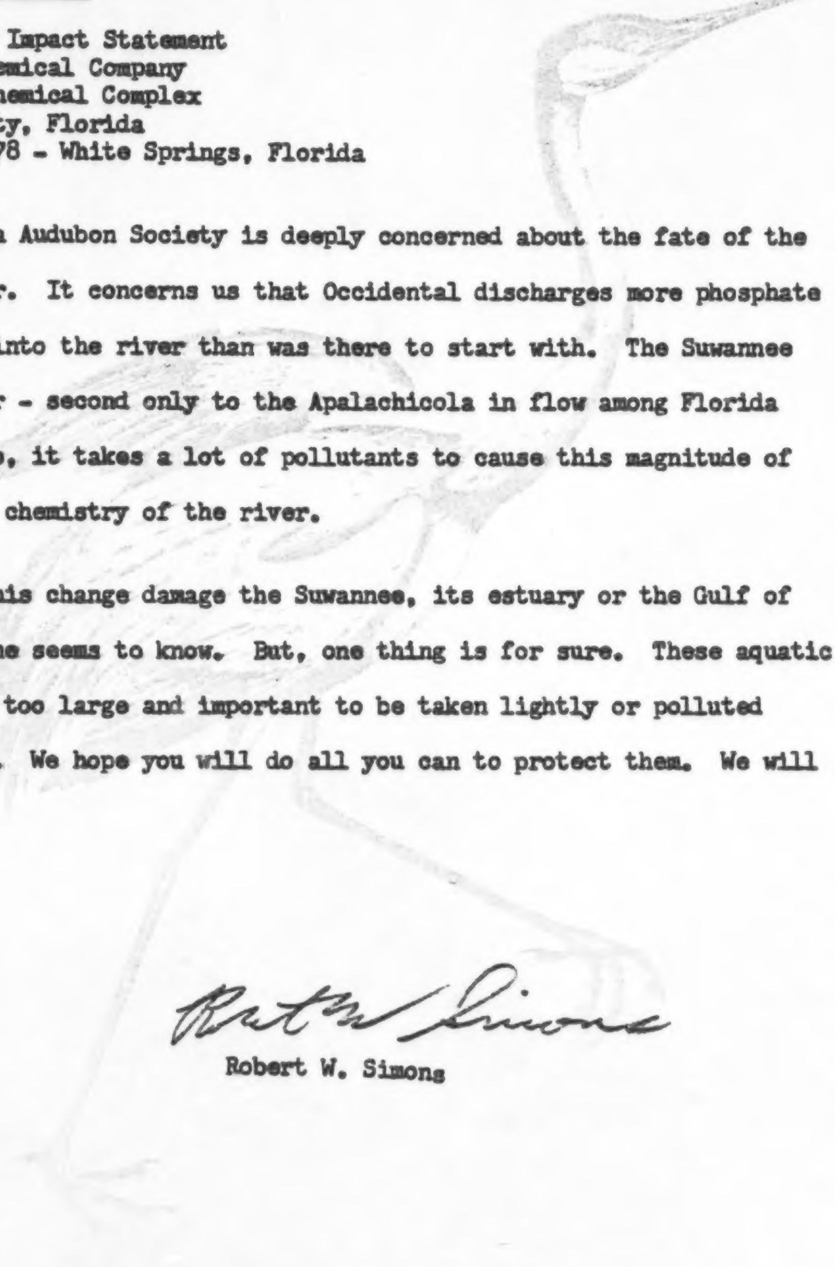
STATEMENT: Page 3

We share the views of the Florida Audubon Society, but rather than repeat them, I will state for the record that Florida Defenders of the Environment endorses the statement made tonight by Dr. Archie Carr, III.

Helen Hood

Helen Hood, Chairman, Parks and Endangered Land Committee
Dr. John Kaufmann, Chairman, Committee for Science

alachua audubon society
p. o. box 13307 • gainesville, florida 32604



Statement Concerning :

Environmental Impact Statement
Occidental Chemical Company
Swift Creek Chemical Complex
Hamilton County, Florida
August 21, 1978 - White Springs, Florida

Alachua Audubon Society is deeply concerned about the fate of the Suwannee River. It concerns us that Occidental discharges more phosphate and fluoride into the river than was there to start with. The Suwannee is a big river - second only to the Apalachicola in flow among Florida rivers, and so, it takes a lot of pollutants to cause this magnitude of change in the chemistry of the river.

Does this change damage the Suwannee, its estuary or the Gulf of Mexico? No one seems to know. But, one thing is for sure. These aquatic resources are too large and important to be taken lightly or polluted unnecessarily. We hope you will do all you can to protect them. We will be watching.

Robert W. Simons

Suwannee River Coalition
P. O. BOX 13295
GAINESVILLE, FLORIDA 32604

FLORIDA AUDUBON SOCIETY
FLORIDA CHAPTER OF THE SIERRA CLUB
FLORIDA CONSERVATION FOUNDATION, INC.

FLORIDA DEFENDERS OF THE ENVIRONMENT
FLORIDA FEDERATION OF GARDEN CLUBS, INC.
FLORIDA WILDLIFE FEDERATION
League of Women Voters of Florida

Statement Made at EPA Hearing
at White Springs, Fla.
August 21, 1978

My name is J. K. Watson, 1401 NW 30 St., Gainesville, Fla., 32605. I am speaking as a representative of the Suwannee River Coalition. The Suwannee River Coalition was formed about a year ago with the specific goal of protecting the natural, scenic, and historic qualities of the Suwannee River. Our membership includes individuals, local organizations, and statewide organizations.

My organization represents a great diversity of interests, but the one interest we all have in common is the Suwannee River. The Suwannee represents many things to many people. It is the life blood of the Suwannee valley. It is more than a place to live, it is a way of life. It is a collection of places to enjoy in many ways. Places to fish, places for recreation: skiing, boating, canoeing, camping, and swimming in those wonderful springs. The Suwannee region is rich with scenic values, rich with cultural values, and with many historic and pre-historic sites. The Suwannee is Florida's most famous river, a remarkable resource that belongs to all of us. An important recreational resource to the region.

The Suwannee River Coalition recognizes the significant impact that Occidental Chemical Company has on this part of the state. There are definite plusses and minusses to this impact. On the plus side, are the economic benefits. As just one example, according to the impact statement, Oxy has provided 1000 jobs in Hamilton County and neighboring counties, in a place where jobs are scarce. As a personal observation may I add that I have enjoyed the priviledge of meeting several of the Occidental management people. I have found them to be pleasant, open individuals who answered questions in a straightforward manner and who seemed willing to show any part of their operation that we were worried about. I dislike having to point out these negative impacts of Occidental Chemical Company, but their operation is polluting the Suwannee River. At the present time the pollution is 2.5 tons/day of phosphorus, 1.3 tons of nitrogen, 0.5 tons of fluoride, 24 tons of sulfate, 7 tons of calcium, and 4.6 tons of sodium. These figures are for average flow of Swift Creek, and all are in tons per day. (Ref. Table 3.2-2, page 147, EIS Summary). The total is 40 tons per day.

The purpose of this hearing is that Oxy proposes to build a new plant, which is proposed to add an additional burden of new pollutants. The amount of the new pollutants add up to a total of 2.5 tons per day more, which is an increase of 6.4 percent.

Oxy's argument in favor of allowing the proposed source, may be paraphrased is "look what we're doing already, by comparison its only about 5 percent more". We don't buy that argument. We ask where is it going to stop? Last February, in this very room, Oxy asked for and got a relaxation of pollution standards. Now it is August, 6 months later, and Oxy is asking for another 5%. Just two weeks ago we learned of a new billion dollar deal for Oxy to sell phosphate to Poland. Does that mean another 5% more pollution, or is it 10% or 25% pollution? I have a strong feeling that people of Florida are not going to go along indefinitely, even though, through a peculiarity of the pollution rules as they are now set up, what Oxy is doing is within the letter of the law.

Let me summarize the Coalition's position on the pollution issue this way: We are neighbors in sharing our respective uses of the Suwannee, but Oxy's use carries the threat of degrading the quality of everyone else's use, which is not a very neighborly thing to do. We do not like the idea of ever-increasing

WE "OTTER" SAVE THE SUWANNEE

Suwannee River Coalition
P. O. BOX 13295
GAINESVILLE, FLORIDA 32604

FLORIDA AUDUBON SOCIETY
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FLORIDA CONSERVATION FOUNDATION, INC.

FLORIDA DEFENDERS OF THE ENVIRONMENT
FLORIDA FEDERATION OF GARDEN CLUBS, INC.
FLORIDA WILDLIFE FEDERATION

pollution loads, and we ask Oxy to find ways to turn it around. We know that Oxy is within the law, but we also know that the industry negotiated what the rules of the law would be.

In conclusion, the Coalition appreciates the opportunity to speak. We appreciate having these facts and figures so clearly spelled out in the Environmental Impact Statement. It's now a new ball game because there can no longer be any lingering doubt in anyone's mind that there are thousands of tons of chemicals that reach the Suwannee annually from Oxy's operation.

J.K. Watson

WE "OTTER" SAVE THE SUWANNEE

JCAAS

UNIVERSITY OF FLORIDA
SPACE SCIENCES RESEARCH BLDG.
GAINESVILLE, FLORIDA 32611
AREA CODE 904 PHONE 392-2027

August 21, 1978

AIR POLLUTION CONSIDERATIONS
OF ENVIRONMENTAL IMPACT STATEMENT
SUMMARY DOCUMENT

The main question that can be raised is to what levels should projected 1979 air quality be referred. The statement on Page 127 suggests that EPA in January 1978 evaluated the Prevention of Significant Deterioration (PSD) clause of the Clean Air Act of 1977 in February 1978 and granted approval to Occidental proposal.

The big question is what were the levels before either complex went on line. Undoubtedly these were of the nature of the pristine SO_2 and TSP levels for rural north Florida. Referred to these pristine levels the PSD provisions of the Clean Air Act of 1977 would undoubtedly have been violated. For Class II areas (underdeveloped and better than NAAQS) the PSD provisions allowed only increments of $19 \mu g/m^3$ for TSP and $20 \mu g/m^3$ for SO_2. Without doubt the SCCC and SRCC have or will degrade the air quality in this part of Hamilton County much more than the 1977 Clean Act allows. Environmentalists should raise the question as to whether these complexes really got under the legal wires in all cases. There is no doubt that the complexes are leading to very serious degradation of air quality.

Table 3.1.3 raises some additional questions. While presumably official EPA dispersion modeling methods have been used one can question the reliability of the numbers 259 and 1224 in view of the questionable nature of 24 hr and 3 hr prediction models. Furthermore by a slight change of inputs winds these numbers those could easily be 261 or 1301 in which case Florida standards would be violated for the SRCC. The use of Valdosta and Waycross, Georgia winds introduces uncertainties of much greater magnitude and the burden of proof should be upon Occidental that they will stay below state standards.

Alex E S Green
Alex E. S. Green
Director, ICAAS

STATEMENT TO THE ENVIRONMENTAL PROTECTION AGENCY EIS HEARING FOR THE OCCIDENTAL CHEMICAL COMPANY SWIFT CREEK CHEMICAL COMPLEX NPDES PERMIT. White Springs - August 21, 1978

Archie Carr, III

Florida Audubon Society

I am Archie Carr, III, Special Assistant to the President for Science of the Florida Audubon Society. We are a conservation group of some 35,000 members with headquarters in Maitland, Florida.

For the past year I have devoted a great deal of my time to the task of studying the phosphate industry in Florida and attempting to soften the impact of the development of strip mining on the Florida environment.

There are two specifics of the EIS that I wish to address:

First, is the discussion of phosphate and energy conservation presented in the summary document (Section 3.44, beginning on page 179).

The statement speaks to the question: Are we stressing future domestic agriculture by exporting finite supplies of phosphate ore today, and in the process consuming scarce reserves of fossil fuels?

Occidental Company management cooperated with the third party contractor in drawing up this EIS, so I assume that the company generally accepts the statements made therein.

I am encouraged by the simple presence of the section in the EIS. It is the first tacit admission that I know by any phosphate company that the subject is worthy of discussion. That's progress.

However, the section is intellectually weak. It strives to leave the impression upon the reader that the company will trade super phosphoric acid (SPA) to Russia in exchange for potash, urea and anyhdrous ammonia, all important fertilizer components. Urea and ammonia require far more energy to produce that SPA. The quantities of product involved in the exchange are such that the U.S. will experience a substantial energy savings because we will not have to expend our own natural gas to make the ammonia.

I sense that many of the assumptions used to develop this optimistic case can be challenged. The whole issue is somewhat tangential to the NPDES permit, so I have not explored them all exhaustively.

One example is the potash segment of the deal. Currently, our major source of potash is the substantial deposit found in Canada. The EIS suggests that the U.S. balance of trade will experience a benefit by obtaining potash from Russia through the Oxy deal. It is not clear to me why this is such an attractive alternative to the present arrangement. The Canadians have a lot of potash. They are close to the U.S., and they are very good friends.

The Russians are far away and are not so friendly.

Perhaps the benefits of the potash deal could be more lucidly described in the final EIS.

A more substantial criticism of Section 3.44 is that it may be that none of the benefits suggested will accrue to the U.S. at all. In the resource documents the EIS contractor outlines 3 options available to the Occidental Co.

1. All the urea and ammonia in the Oxy-Russia deal may be returned to the U.S.
2. Some fraction of the total may be shipped to the U.S. and the remainder sold abroad.
3. All the trade products may be sold abroad.

Which alternative is chosen will depend on international market demand. That's predictable, but I suggest that the summary document requires the inclusion of all three options so as not to mislead the reader into anticipating the certainty of positive rewards for the U.S.

Given that three trade options are still open, the entire section requires revision if it is to be of any value at all.

Let me turn now to my final point, pollution of the Suwannee River. The EIS indicates that Occidental is ready to invest substantially in real environmental protection. With a $20 billion deal at hand with the USSR one would indeed expect that funds could be spent here in Hamilton County to protect future options.

The issue of effluents released to the Suwannee River causes me special concern. The problem is that those pollutants - nitrates, sulfates, phosphates and fluorides plus lesser trace elements - that will be added to the Suwannee in addition to those already entering from the Suwannee Complex will be legal pollutants and there is no evidence that they will do biological damage.

I attribute the apparent absence of biological problems in the river to the volume and flow of the Suwannee. Pollutants are diluted and transported so rapidly that the river channel itself does not experience an impact. Or so it seems according to our present knowledge.

The river is and will continue doing a free service for the company: externalizing waste disposal.

However, as an ecologist and as an officer of Florida Audubon I must consider the following points when evaluating the concept of effluents in the Suwannee.

1. Pollution has the habit of plaguing us in the most unexpected fashion. Fooling around with Mother Nature results, more often than not, in a resounding slap when and where we least expect it. Therefore, a dependable principle is that no pollution is better than legal pollution.

2. The phosphate industry will be in the Suwannee Basin for decades. Each day several hundred pounds of assorted pollutants will be discharged - for thousands of days. If it doesn't hurt the Suwannee, will this sustained discharge impact the Gulf of Mexico? Probably. Someday we will almost certainly discover something that we will regret if the proposed discharges are permitted.

3. There will be more plants. Possibly more phosphate plants. Possibly plants of other industries. And all will desire to take advantage of the free services of the Suwannee. Cummulatively, these discharges may overcome the tolerance of the river. We must draw the line. Why not do it now?

4. The Swift Creek Chemical Complex is still in the blueprint stage. Now is the time to design for minimal discharge.

5. My people, the rank-and-file of Florida Audubon will never be convinced that pollution is benign. They are probably right for the longrun. More importantly in the short run, their views are a political fact of life.

6. As you have witnessed tonight, the Suwannee is loved by the people. I think you will agree that it is improbable that a river as big as this can still be in such remarkably good shape after so many generations of white-man occupation of peninsular Florida. It is a beautiful river. An historical river. A productive river. It is a treasure for this state and for this nation. Soon, through the concerted efforts of the major conservation groups of Florida, the river will receive formal recognition by the U.S. government and further protection from the State of Florida.

How do you manage such a river as the Suwannee. Not like the Mississippi with its dead pelicans and carcinogenic waters. Not like the keypone-chocked James. Not like the vile Hudson. A river like this you manage with all the caution, conservation, care and love that can be brought to bear. The Florida Audubon Society will not stand for less.

We ask the Occidental Company to recognize these values and commit to minimal discharge from the Swift Creek Complex, liberal legal standards not withstanding. We believe it can be done. We certainly believe it's worth doing.

My recommendation to the EPA and DER is to investigate the possibility of zero discharge from the Swift Creek Complex in more depth before the NPDES permit is granted. I make the recommendation on behalf of the Florida Audubon Society in full recognition of the absence of legal or known biological limitations to the proposed Swift Creek discharges. In good conscience, I cannot recommend otherwise.

CHAPTER IV

OTHER WRITTEN COMMENTS SUBMITTED AND RESPONSES TO THE SUBSTANTIVE COMMENTS

CHAPTER IV. OTHER WRITTEN COMMENTS SUBMITTED AND RESPONSES TO THE SUBSTANTIVE COMMENTS

This section presents all letters received by EPA during the comment period July 19 through August 31, 1978. In the case of the comments which require a response (C-1, C-2, C-5, C-9, C-10, C-11, C-12, C-18, C-22, C-23, C-24), the responses are presented immediately following the letters. The remaining comments are accepted and no responses are necessary.

C-1

FEDERAL ENERGY REGULATORY COMMISSION
REGIONAL OFFICE
730 Peachtree Street, N. E.
Atlanta, Georgia 30308
July 28, 1978

Mr. John E. Hagan III
Chief, EIS Branch
Environmental Protection Agency
Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30308

Dear Mr. Hagan:

This is in response to your letter dated July 14, 1978, with attachment, requesting our comments on the Draft Enviromental Impact Statement Summary Document for the proposed Occidental Chemical Company, Swift Creek Complex, Hamilton County, Florida.

The Commission's principal concern in regard to developments affecting land and water resources is the possible impacts of such projects on the construction and operation of bulk electric power facilities and interstate natural gas systems.

In reviewing the DEIS, we noted nothing that should interfere with any of the Commission's licensed projects. However, provision should be made to protect any electrical transmission lines or natural gas pipelines in the construction area.

We appreciate the opportunity to comment on your proposed project.

Very truly yours,

K. C. Bird
K. C. Bird
Acting Regional Engineer

JUL 31 1978

Response to C-1

1. Pipelines and electrical transmission lines will be protected by easement provisions and for operational purposes and therefore should not be disturbed by chemical plant or mining activities.

C-2

hrs
STATE OF FLORIDA
DEPARTMENT OF
Health & Rehabilitative Services
Radiological Health Services
P.O. BOX 6635
ORLANDO, FLORIDA 32803
Reubin O'D Askew, Governor

August 1, 1978

Administrator
U. S. Environmental Protection Agency
Region IV
345 Courtland Street N.E.
Atlanta, Georgia 30308

Dear Sir:

We have reviewed the Environmental Impact Statement, Draft for the Occidental Chemical Company, Swift Creek Chemical Complex, Summary Document. We have one comment (Sec 3.5 Radiological Page 187) relative to the probable hazard from reclaimed land. It is stated that composite radium 226 concentrations in the first 20 feet were found to be up to 6.6 pCi/gram. Unpublished data of the Florida Department of Health & Rehabilitative Services indicate that reclaimed land with 0 - 6' average concentrations of radium 226 equal to or greater than 3.0 pCi/gram has an increased probability of having annual average WL concentrations exceeding 0.1 WL. It is our feeling that reclaimed land from this operation may present a long term problem if land is later used for residential construction. It is recommended that every effort be made to maintain radium 226 concentrations in reclaimed land to less than 3.0 pCi/gram.

Thank you for this opportunity to review this document.

Sincerely,

Wallace Johnson

Wallace B. Johnson
Public Health Physicist
Radiological Health Services

WBJ/ltf

Response to C-2

1. Section 3.5.2 of the Summary Document recognized the existing guidelines of a screening level for external gamma radiation over reclaimed lands and the proposed guidelines expected from EPA in the near future. These updated guidelines may restrict the development upon reclaimed lands because of a lower design limit for working levels in potential residential structures.

   The composite radium-226 level of 6.6 pCi/g mentioned for reclaimed land is considered to be an upper limit and the DHRS recommendation to make every effort to maintain radium-226 concentrations in the upper six feet of reclaimed lands to less than 3 pCi/g is considered feasible for much of the reclaimed acreage.

C-3

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

State Office, P. O. Box 1208, Gainesville, FL 32602

August 4, 1978

John E. Hagan, III
Chief, EIS Branch
Environmental Protection Agency
Region IV
345 Courtland Street, N. E.
Atlanta, GA 30308

Dear Mr. Hagan:

RE: Draft Environmental Impact Statement for the Occidental Chemical Company Swift Creek Chemical Complex, Hamilton County, Florida

We have reviewed the subject draft environmental impact statement and offer the following comments.

With the installation of mitigative measures and minotoring as outlined in Section 5, this agency believes that substantial environmental impact, both now and in the future, can be avoided.

We appreciate the opportunity to review and comment.

Sincerely,

William E Austin

William E. Austin
State Conservationist

cc: R. M. Davis

Hamilton County Chamber of Commerce

'HAMILTON COUNTY . . . EXPANDING OPPORTUNITIES'

August 22, 1978

John E. Hagan III
Chief EIS Branch
Environmental Protection Agency
Region IV, Atlanta, Ga.

Dear Mr. Hagan:

We fully recognize the financial impact of the Occidental Chemical Company on Hamilton, Suwannee, and Columbia counties. We appreciate the meaning of this plant to our local economy both in jobs and in taxes to the county and state.

We want them to be a good neighbor to us. They have been and can continue to be an asset to our community.

We believe the Permit should be issued, with the following limitations.

The pollution level in the Swift Creek and Suwannee River should not be allowed to raise above the percentage rate [illegible] set by EIS in this survey.

In the event that other industries should locate on or near the river or Occidental should expand more in the future, the EIS rate will remain the same.

We expect the Environmental Protection Agency to use our tax dollars wisely, by policing these waters and keeping them as free of pollution as possible. We know that

P. O. Drawer P, Jasper, Florida 32052
Telephone (904) 792-1300

Occidental will be as cooperative in this as they have been in the past.

We must keep in mind these rivers especially the Suwannee do not belong to the people of Hamilton County alone but to the state and nation.

Sincerely,

HAMILTON COUNTY CHAMBER OF
COMMERCE
EXECUTIVE SECRETARY,
MARION TURNER

Marion Turner

cc: Occidental Chemical Company

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230
(202) 377-3XXX 4335

August 22, 1978

C-5

Mr. John C. White
Regional Administrator
U.S. Environmental Protection Agency
345 Courtland Street - Region IV
Atlanta, Georgia 30308

Dear Mr. White:

This is in reference to your draft environmental impact statement entitled, "Occidental Chemical Company, Swift Creek Chemical Complex Hamilton County, Florida." The enclosed comments from the National Oceanic and Atmospheric Administration are forwarded for your consideration.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving eight (8) copies of the final statement.

Sincerely,

Sidney R. Galler
Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosures: Memo from Mr. Douglas LeComte
Sepcial Projects - NOAA

Mr. Issac Van der Hoven
NOAA

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ENVIRONMENTAL DATA SERVICE
Washington, D.C. 20235

AUG 7 1978

August 4, 1978

TO: William Aron, Director
Office of Ecology and Environmental Conservation

Douglas Le Comte

FROM: Douglas LeComte
Special Projects

SUBJECT: DEIS 7807.23 - Occidental Chemical Company, Swift
Creek CHemical Complex

Page 23, section 2.1:

1 Though the discussion of the area's meteorology and climatology appears to be complete, evaluation of the environmental discussion and the air quality modeling was hindered by the lack of a map anywhere in the impact statement (summary document) showing the location of the project with respect to the rest of Florida. The authors cannot expect every reviewer to be familiar with the town of White Springs or Hamilton County, and readers should not be forced to consult an atlas for this information, which is normally depicted in environmental impact statements.

August 18, 1978

TO: William Aron

Isaac Van der Hoven

FROM: Isaac Van der Hoven

Subj: DEIS 7807.23 - Occidental Chemical Co., FL

2 For all practical purposes, the calculated SO_2 levels from the proposed and existing sources from the Suwannee River Chemical complex (see page 132) have reached the 24-hour National Secondary Air Quality Standard. Whether measured or calculated, one can hardly distinguish between 259 and 260 micrograms per cubic meter. In view of the highest measured 24-hour value of 197 micrograms per cubic meter from a 4-station network operated during a period from May 1977 and January 1978, I would feel that the likelihood of exceeding the 260 value is high considering the proposed plant expansion.

Response to C-5

1. A map showing the location of the project with respect to the rest of Florida is contained in Chapter II of this final EIS. (Figure II-1).

2. It is true that predicted air quality levels are close to, but do not exceed, the Federal Secondary Standard intended to protect the public welfare. Predictions are well below the Federal Primary Standard intended to protect the public health. Considering however that the proposed sources are to be located 7.5 kilometers west of the existing sources and considering the meteorological conditions existing at the Occidental site, it is not expected that SO_2 levels higher than predicted will actually occur.

   Additional SO_2 monitoring data from the network cited (Section 2.2.2.1.2 Summary Document) representing the period January through August 1978 show levels well below those reported in the EIS.

Columbia County Environmental Council

P. O. Box 596 ▼ Lake City, Florida 32055

August 22, 1978

Mr. John E. Hagan
Chief, EIS Branch
EPA
Region IV
345 Courtland St
Atlanta, Ga. 30308

Dear Mr. Hagan:

This letter is a protest of the conduct rules and actions of EPA at the August 21 Occidental hearing at White Springs, Fl.

The hearing concluded shortly after 9pm. Those persons who had prepared more lengthy presentations should have been given the opportunity to do so after everyone had spoken once under the five minute limit. Some people had prepared visual aids to help the public better understand what was being done in the presentation. I rigged an extension cord and made it available to anyone who needed it for their presentation. You committed that cord to EPA use and would not relinquish it for my presentation or other presentations. As a result, I had to speak without the aid of the PA system.

I prepared my visual aids for the benefit of the audience and needed approximately 20 minutes to make the presentation, all of which pertained either to the permit or to the EIS. I was not allowed to make that presentation and others were denied permission to make their more lengthy presentations also. The public in attendance was denied the benefit of hearing the more detailed, pertinent statements. None of these rulings or the withholding of already rigged power cords satisfied the requirements of a proper public hearing, in my opinion. The public is the loser since I will be submitting a technical statement to you for your own consideration. The general public will not take the time to read a lengthy technical document.

Sincerely, J Frank Sedmera

HAMILTON COUNTY COMMISSIONERS

JOEL C. SELPH
DISTRICT 1
JENNINGS

W. R. (BILL) SCAFF
DISTRICT 2
JASPER

JACK VINSON
DISTRICT 3
JASPER

L. A. EDENFIELD
DISTRICT 4
WHITE SPRINGS

DAVID GOOLSBY
DISTRICT 5
JASPER

ALICE JONES
CLERK CIRCUIT COURT
HAMILTON COUNTY
JASPER, FLORIDA 32052

August 23, 1978

Mr. John E. Hagan III
Chief, EIS Branch
Environmental Protection AGency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Re: EPA 904/9-78-012
NPDES Application Number
FL0036226
Proposed Issuance of a New Source National Pollutant Discharge Elimination System Permit to Occidental Chemical Company, Swift Creek Chemcial Complex, Hamilton County, Florida.

Dear Mr. Hagan:

I am Attorney to the Board of County Commissioners of Hamilton County, Florida, sometimes called "County Attorney". I am writing herein pursuant to the directions of said Board.

It was on Monday evening, August 21, 1978, that there was a public hearing in White Springs, Florida, with regard to the caption matter. Two members of said Board of County Commissioners were present at that meeting. I am advised that "State" officials or persons were called upon to make statements with regard to the matter but no "county" officials were called for statements. Further, the meeting room was not air conditioned and was very hot; the meeting was rushed and terminated hurriedly. Under which circumstances the two Board members had no opportunity to make any statement about this matter. Therefore, the Board desires to take this means to submit to the record of this matter the views and opinions and position of the said Board.

The Board of County Commissioners of Hamilton County, Florida, will assume, with regard to the caption matter, that:

(a) Your agency, hereinafter called EPA, has heretofore established good and sufficient rules and regulations with regard to such matters and that such rules and regulations are based upon ample and sufficient study, research and evidence;

(b) EPA has thoroughly reviewed and examined the proposal and matters involved under and in connection with the caption matter and have otherwise given ample study, research and evaluation with regard to the same;

under which circumstances, the said Board, will rely upon the judgment, decision and determination that may be made by EPA with regard thereto.

Yours very truly,

John H. McCormick

John H. McCormick
Attorney, Board of County
Commissioners, Hamilton
County, Florida

CC: Honorable Alice Jones
Clerk of Circuit Court
Hamilton County Courthouse
(Ex-Officio Clerk to said
Board)
Jasper, Florida 32052

C-8

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION IV
101 MARIETTA TOWER, SUITE 1XXX 1503
ATLANTA, GEORGIA 30323

OFFICE OF THE
Principal Regional Official

August 25, 1978

HEW-877-7-78

Mr. John C. White
Regional Administrator
United States Environmental
Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30308

SUBJECT: DEIS for the Occidental Chemical Company Swift Creek Chemical Complex

Dear Mr. White:

We have reviewed the subject draft Environmental Impact Statement. Based upon the data contained in the draft, it is our opinion that the proposed action will have only a minor impact upon the human environment within the scope of this Department's review. The impact statement has been adequately addressed for our comments.

Sincerely yours,

James E Yarbrough JB

James E. Yarbrough
Regional Environmental Officer
DHEW-Region IV

cc: Ms. A. McGee

Mr. Raymond Goldberg

C-9

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333
TELEPHONE: (404) 633-3311

August 25, 1978

Mr. John E. Hagan III
Chief, EIS Branch
Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Dear Mr. Hagan:

We have reviewed the draft environmental impact statement for the Occidental Chemical Company, Swift Creek Chemical Complex, Hamilton County, Florida. We are responding on behalf of the Public Health Service.

1 The report is vague on final disposition of the gypsum stock (par. 5.2.3.3). One measure mentioned is a clay cover to prevent percolation of water. This would also decrease the strength of gamma rays and decrease escape of radon from the radium content of the gypsum.

2 Also, the report does not discuss the reclamation of the disturbed land to some level of productivity. There is no mention of a bond or other measure to assure performance.

3 Although the advantages of the exchange agreement with the U.S.S.R. seem to be correct, it is confusing to compare phosphate resources with reserves of natural gas (par. 3.4.4.2).

Thank you for the opportunity of reviewing this statement. We would appreciate receiving a copy of the final when it is issued.

Sincerely yours,

William H. Foege, M.D.
Assistant Surgeon General
Director

Responses to C-9

1. The proposed NPDES permit requires that within 180 days of gypsum pile abandonment the owner submit a Plan of Study to the EPA. In addition, regulations continue to be developed to assure appropriate controls. Both the State and Federal governments have authority to require studies of this nature, particularly during the periodic renewal of the permit.

2. "All land mined on or after July 1, 1975 must be reclaimed in accordance with regulations adopted by the Florida Department of Natural Resources." Section 211.32(3)(a), Florida Statutes (1977).

   This regulation addresses only the existing mine operations; the proposed facility is a chemical plant.

3. A more complete discussion of the relationship of the exchange agreement and the involvement of natural gas will be found in Section 3.4.3.2 of the Resource Document. Also see Response to T9.

North Central Florida Regional Planning Council

2002 N.W. 13 ST., SUITE 202, GAINESVILLE, FLORIDA 32601 • TELEPHONE 376-3344 • CHARLES F. JUSTICE, EXECUTIVE DIRECTOR

August 25, 1978

Mr. John E. Hagan III
Chief, EIS Branch
Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Ga. 30308

Re: Clearinghouse review of the draft Environmental Impact Statement for the Occidental Chemical Company, Swift Creek Chemical Complex, Hamilton County, Florida (EPA 904/9-78-012)

Dear Mr. Hagan:

The North Central Florida Regional Planning Council as the designated areawide clearinghouse for Administrative District III has charged its Clearinghouse Committee with the responsibility of carrying out the duties of the Federal Office of Management and Budget Circular A-95. The Committee has scheduled a meeting to review the above listed project along with other items on September 13, 1978. Appropriate notices to interested local governments and other agencies that may want to comment have been sent about the project to be considered by the Committee.

We realize that your staff is preparing the final Environmental Impact Statement on this project and hope to issue the statement as soon as possible. I have enclosed staff comments that will be recommended for Committee consideration. I trust that these comments may prove beneficial in the preparation of the final Environmental Impact Statement; however, I will forward the Committee's action along with any other comments that may be made about the project after the Committee meeting.

If you have any questions about the enclosed comments, please do not hesitate to contact me or Ed Regan of this office.

Sincerely,

Charles F. Justice

Charles F. Justice
Executive Director

CFJ:ch

Enclosure

North Central Florida Regional Planning Council
Staff Review and Comments
on
The Occidental Chemical Company
Swift Creek Chemical Complex Expansion
Draft Environmental Impact Statement

Overall, there is no reason to deny the permit strictly for reasons of demonstrated or predicted environmental damage. However, Occidental (Oxy) must be held accountable for their promises concerning environmental control and monitoring, to prevent future damage.

The nature of the review and commenting process, reflected in the comments below, tends to reflect a negative portrayal of the document being reviewed. In all fairness, some of the more positive aspects of the study should be mentioned. Because the proposed chemical plant has a sister plant five miles away (Suwannee River Chemical Complex), the expected impacts were evaluated by examining the existing plant. Thus the impact study for the new plant is in many ways a study of the existing plant, and is supposed to be the first study of this kind of plant in Florida.

The proposed plant has many innovative features: the use of a hemihydrate process, the convayance of wet rather than dry product to the plant, and the electrical cogeneration plant, are some of these features.

The study was obviously very expensive to conduct, based on the numerous chemical analyses and drill holes used for systematic sampling of seepage, etc. The energetic analysis of the trade benefits is one of the first seen in a study of this type.

Since the document is a draft perhaps the comments presented below can be adequately addressed in the final EIS. Some of the comments address details which are probably easily clarified, others potential problems which might potentially be considered as conditions of approval:

Public Facilities

1). The proposed facility will require extensive movement of freight by rail. In particular, the super phosphoric acid product may present some safety problems, in part due to the temperature at which it is moved. Safety precautions for freight movement and terminal facilities, should be discussed in the final EIS, in particular the condition of the rail. A major spill would probably be neutralized in a fairly localized area, and noxious gases are not characteristic of this material, however this matter does seem appropriate for consideration in the final EIS.

2). The proposed facility will be able to generate 60% of its electrical power need, a feature which is commendable, especially since this is supposed to be one of the first steam-driven turbine generators installed in a phosphate plant. However, the additional 40%, approximately 7.5 megawatts, will have to be routinely purchased from Florida Power Corporation (FPC). In addition, there will be times when Oxy will need to purchase the full 18.75 megawatts from FPC. Assurances from FPC as to their inclusion of this consideration into their plans should be included in the EIS, especially in light of the present and near future small marginal capacity of FPC. The assurance should specify the type of contract, interruptable or not, and the degree to which the capacity required to meet Oxy's demands will be subsidized by revenue generated from other customers. Ideally, full power (100%) purchases would be coordinated for off-peak hours.

Air Quality

3). One of the impacts of the new plant is the air quality restrictions (SO_2,TSP) it could impose on FPC's potential coal fired plant site at Ellaville or on other development in the area. The Ellaville site was one of the six sites proposed in FPC's ten year site plan submitted to the Division of State Planning this year. This comment is particularly applicable to the emission inventories on page 2-32, 2-33. This impact should be mentioned in the final EIS.

4). The presentation of the air quality modeling methodology of section 2.2.1.1 indicated that the CRSTER model was run twice each for SO_2 and particulate emission data, one run each for 1977-78 emissions from the existing Suwannee River Chemical Complex, and another for 1977-78 emission data from the proposed Swift Creek Complex. However, the presentation of methodology does not indicate that both sources were considered simultaneously. No further clarification was given in section 3.1.2. Figure 3.1-1 indicating the 1979 predicted isopleths of the calculations did indicate an extended gradient in the direction of the Swift Creek Plant. If this is because the calculations were made for simultaneous emission, it should be clarified in the final EIS.

5). Table 3.1-3 indicates that the 3-hour averaging time concentration of SO_2 atmospheric emissions calculated for the Swift Creek Complex (SCCC) would be less than the 24 hour concentration for 1977-78 data. Is this a typographical error? Similar inconsistencies are found on page 3-6, indicating a decrease in SO_2 concentrations from 1977-78 to 1978 for the Suwannee River Chemical Complex (SRCC), trends inconsistent with table 3.1-3.

6). Fluoride atmospheric emissions have been documented in the EIS as difficult to quantify, especially because of the wide range of pond emission rates (.1-10 lbs/acre/day). A program of on-site recording of water and air temperature, air speed, humidity, and water concentrations of fluoride in addition to air concentrations of fluorides could add much knowledge toward improved ability to predict this emission, and could perhaps be integrated into Oxy's monitoring requirements.

Water Quality

7). Included with the EIS was the draft permit to be issued. However, the sampling location codes did not correspond to the codes used elsewhere in the EIS. For this reason it was necessary to use a map included with an earlier public notice of NPDES permit modification determination (specifically Public Notice No. 77FL0067D) in order to interpret the permit. However, this map did not identify monitoring sites 001-22 and sites 001-28. The final EIS should include a map identifying the location of these monitoring sites.

8). Figure 2.3-3 indicates that there exists a canal by-passing the section 10 pond. This by-pass is identified on the map as SC9. The text stresses the use of the section 10 pond as a polishing and retention pond in the routine flow of non process water. The by-pass should either be filled (plugged) or adequate specification made as to its exact purpose. The need to bypass for reason of excess stormwater is questionable, since the water could be routed through the pond.

9). A major problem inherent in the permit is the fact that monitoring will be performed by the applicant, as evidenced by statements made at the August 21 public hearing on the permit at White Springs. Data was presented at the hearing from USGS which apparently contradicted the monitoring reports which were filed with EPA by Oxy. This controversy should be resolved in the final EIS since it has direct bearing on the credability of the applicant. Included in the final EIS should be the monitoring activities of the Florida Department of Environmental Regulation (DER) which may have bearing on the reliability of Oxy's monitoring and should be random. Perhaps the Oxy monitoring sites could be consolidated into fewer number, eliminating some of the upstream sites, and the resulting savings be passed on to the Florida DER in order to increase their sampling frequency at sites near or at Swift Creek, in order to insure overall compliance.

10). There appears to be missing text between page 1-19 and 1-20.

11). Have calculations of cooling, retention and treatment pond sizes included volumetric changes due to sedimentation?

12). The system for treatment of process water in the event of a 24 hour, 25 year storm is mostly automated (figure 1.4-10). This equipment is intended to be used in the case of a 24 hour, 25 year storm event, which occurs very infrequently and is likely to be accompanied by a higher probability of of power failure than at other times. The final EIS should mention whether or not there will be emergency power supplies. There also remains the possibility of equipment malfunction due to non-use, especially pH sensors. The document indicated that ample supplies of treatment chemicals will be maintained on hand. How will this stock be continuously verified? Plans for maintaining and periodically testing the treatment system might be included in the final EIS. Perhaps the expensive and idle equipment should be replaced by a semi-manual system as a more realistic alternative. In any case the system should not rely on entirely automatic equipment, because of the apparently high probability of malfunction and power failure.

13). No proposal for the mitigation of the cooling pond after plant retirement was found in the document. A large standing lake with fairly toxic waters could endanger wildlife and people for a substantial period of time after retirement of the plant. A major characteristic of the pond is low pH. Reclaimation of this pond, or at least partial treatment, would be in the public interest. A possible solution, when the plant is retired, would be to neutralize the pond by draining (slowly, during dry periods) some of the water from the elevated clay settling area into the pond, allowing the calcareous clays to react with the ions in solution.

14). In the Final EIS, the Beck Biotic Index equation (2 x class I + class II) should be provided for the convenience of the reader, preferably on page 2-781, since it is not found in EPA's standard methods for water quality evaluation, as well as some detail as to its history and interpretation.

It should also be pointed out that the Beck index is considered a qualitative index (EPA, 1973, Biological Field and Laboratory Methods) and is subject to numerous constraints, to quote:

> "Technique is totally subjective and quite dependent upon the skill and experience of the individual who makes the field investigations. Therefore, results of one investigator are difficult to compare with those of another, particularly where data are summarized in an index such as that proposed by Beck."

Difficulties are also encountered in employing diversity and equitability indices, in that they employ numbers of Taxa, which perusal of the data in appendix C-1, are often represented by only one individual. The document cited above further states that "samples containing less than 100 specimens should be viewed with caution, it at all", and it was noted that 28 percent of the samples in appendix C-1 had less than 100 specimens. Thus it is suggested that the macroinvertebrate data be viewed with caution, and that the same sorts of considerations as those mentioned above be applied to the periphyton data.

15). The fact that no statistically significant differences were found between streams does not necessarily mean they aren't different. The statistical methodology appears to have employed the hypothesis $Ho:M_1=M_2=M_k$ which is appropriately tested using an alpha statistic, which measures the probability of erroneously rejecting this hypothesis. This is a test for heterogenity. To precisely measure homogeniety, the hypothesis $Ho:M_1\neq M_2\neq M_k$ must be employed and tested using the beta statistic. The difficulty in employing this statistic has led some authors (i.e. Dixon) to suggest that an alpha level of .25 would adequately approximate a beta confidence of .05 for erroneously concluding that the means (or variances) are from the same population. Examinations of the F ratios in some tables indicates this indeed appear to be the case for some parameters. Sample sizes should be included with all statistical tables in the final EIS.

16). The marginal impact of the discharge permit on Suwannee River Water has been calculated as a percent change in the total existing effluent. The existing effluent averages 80% of P in the river, four times the amount from upstream. Calculations (see accompanying figure and table) confirm the already obvious conclusion that while the marginal impact of the new plant will be a small fraction of the nutrient concentrations downstream from the mouth of Swift Creek, they are a large fraction of the nutrient concentrations coming from above the Swift Creek Mouth. No evidence of significant degradation of the Suwannee River was presented. Discussion with observers, both in the industry and out, as well as Council staff observation, indicates a plume of murky water where the two flows mix. Most of the testimony at the August 21 public hearing at White Springs expressed concern at the degradation effects cumulative discharges could have on the Suwannee.

The primary question then becomes, what is the threshold of significant degradation? Some of the principle discussions on this issue indicate that nutrients are not the limiting factor preventing deleterious slim and algae; rather light and turbulence is limiting due to the extremely dark color of the water. This is an issue of scientic and practical merit. Therefore, ideally EPA would commission a quantitative study (probably a laboratory study) of photosyntheticly limiting factors in the Suwannee River. Perhaps it would be justifiable to make this study a condition of the permit. If the limiting factor is only a trace element, it is possible that this element could be unknowingly introduced to the river, creating a messy and surprizing situation. The proposed study could alleviate much public concern and strongly buttress the EIS.

17). The mass and load calculations presented in table 3.2-3 employed a flow of 59 cfs for Swift Creek. Considerable confusion occurred, since USGS reports an average flow of 35 cfs for Swift Creek in Table 2.6-1. Discussion with John Davis of Breedlove and Associates indicated that the confusion was caused by USGS separating Oxy effluent from Swift Creek flow. Perhaps this practice should be specified in table 2.6-1 for the final EIS.

Terrestial

18). The principle terrestial impacts of the proposed plant will be an eventual mile square of chemical wasteland (cooling pond and sypsum stack), a potential 28 mile square (assuming 3 mile radius) area with fluoride concentrations in vegetation potentially prohibiting cattle, and the discharge of nutrients with probably little or no biological effect on the Suwannee River.

The gypsum stack and cooling pond wastelands have long been common in Central Florida and are apparently acceptable. The area precluded for cattle is slated for forestry and is likely to be disrupted by mining.

The increased radiation levels are in areas not expected to be residential. Thus the decision must be made if these impacts are outweighed by the benefits. Perhaps the Energy metric proposed by the Center for Wetlands at the University of Florida in their South Florida Study could be employed.

19). The results of the Fluoride Study (Breedlove and Associates, Inc.) were not available at the time of the Draft EIS. A draft has since been provided to this agency whose major findings were:

a). An area within a four mile radius of the SRCC plant in which unsafe (>40 ppm) levels of fluoride were found in broomsedges and high levels in rat bones, and

b). No evidence of fluoride accumulation in sediments or oysters in the Suwannee estuary.

EPA should provide their interpretation and evaluation of this study in the final EIS. Some possible reflections on the study are:

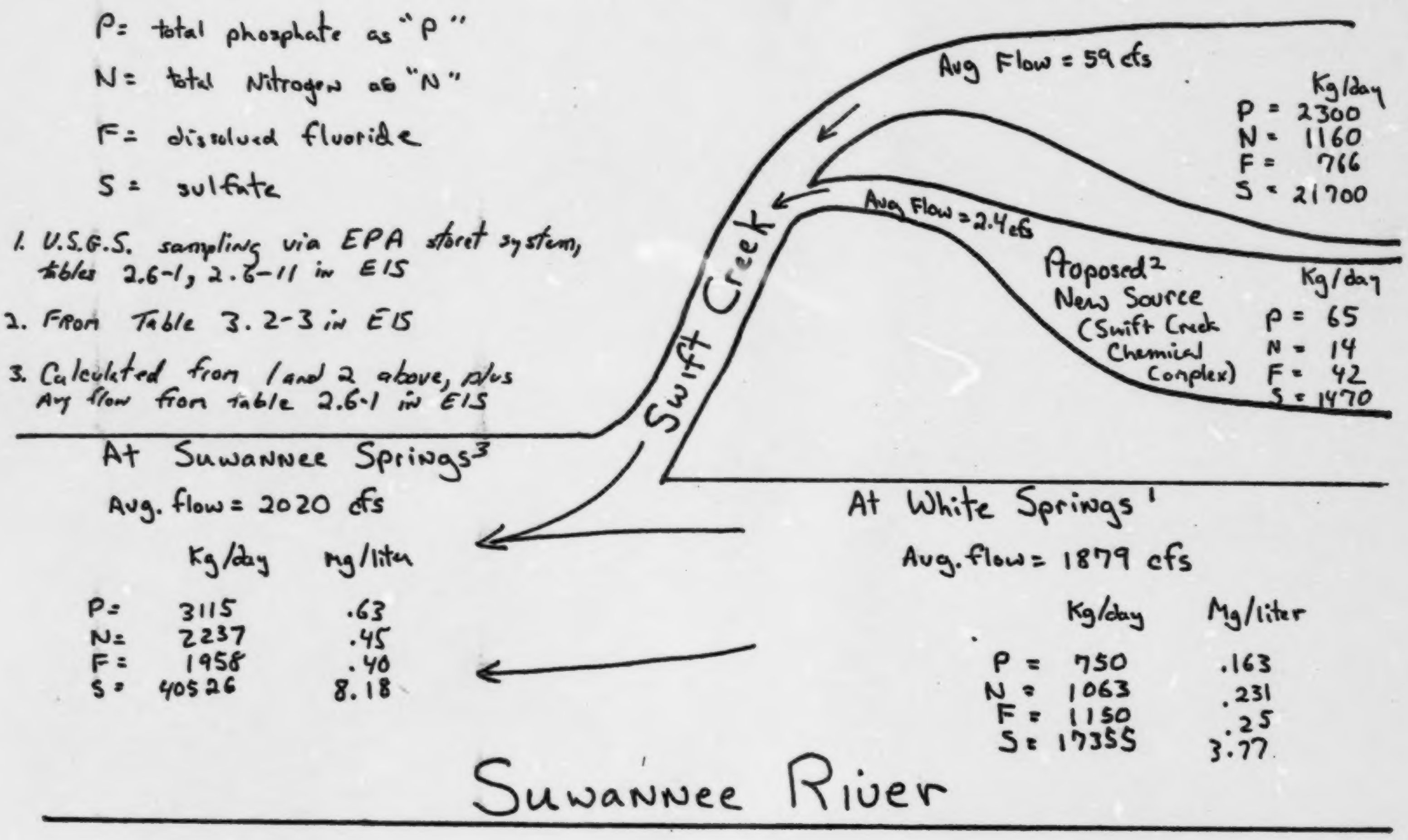
a). If the permit is granted, there will be two sources of fluoride each with an area of influence. The radius of the SCCC area could be estimated using the regression equation for concentration versus distance but modifying the y intercept to reflect the difference in expected emissions.

b). This area should be precluded from commercial (i.e. cattle) use, if broomsedge data is at all generalizable to cattle forage.

20). In view that apparently no other phosphate company has ever capped a gypsum stack, to my knowledge, and because of the immense cost, is it realistic to believe that Oxy will cap their gypsum stack with a clay soil? If this is a necessary step, what are the assurrances that this will be done (i.e. trust fund, etc.)? If not necessary, the costs could be diverted for other possibly more worthy reclamation projects.

21). Although conversations with representatives of Oxy indicate that the gypsum stack will become indurated, or hard, after time, the potential for excess movement of fluoride due to wind blown gypsum might be discussed in the final EIS.

22). Pollution of the Floridian Aquifer is prevented only if the Hawthorne layer is intact under and around the cooling pond and gypsum stack. Part of the area under the gypsum stack is or will be mined. Precautions while mining and careful examination of mine pit bottoms are recommended before utilization for the gypsum stack or cooling pond.



Calculations of Mass Loading and Concentrations on The Suwannee River for Selected Parameters as a Result of Swift Creek Effluent

ALTERNATIVE METHODS FOR CALCULATING MARGINAL IMPACTS OF SWIFT CREEK EFFLUENTS

For Selected Parameters at Average Flow[1]

Characteristics	Phosphorous	Nitrogen	Fluoride	Sulfate	Note
Mass Load Upstream from Swift Creek (kg)	750 550	1,063 3,500	1,150 1,134	17,355 28,600	a b
Existing Mass Load from Swift Creek (kg)	2,300	1,160	766	21,700	c
Proposed Additional Mass Load from Swift Creek (kg)	65	14	42	1,470	d
Percent increase presented in EIS (%) (change in total effluent)	2.8	1.2	5.5	6.7	e
Percent increase as fraction of baseline mass load (%)	8.7-11.3	1.3- .4	3.6-3.7	8.5-5.1	f
Total Percent change in Suwannee River Mass Load due to present Swift Creek Effluents	418 306	35 109	68 67	76 125	g h

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[1] Swift Creek average flow = 59 cfs
White Springs average flow = 1879 cfs

NOTES TO TABLE

A). Average flow taken from U.S.G.S. data in Table 2.6-1 for the station at White Springs, average concentration taken from EPA storet data presented in Table 2.6-11. These values differ from calculations presented in Table 3.2-3 because no correction was made (via regression equation) to make concentration average comparable to average flow average concentration (EPA sample average concentration does not necessarily represent average flow concentration due to low frequency sampling). These values were incorporated into the table for comparative analysis.

B). Back-calculated from data presented in Tables 3.2-3 and 3.2-4. Estimates of mass loads upstream from Swift Creek Mouth were made by subtracting Swift Creek mass loads from total mass loads calculated in EIS for Suwannee Springs. Assumes no change of mass between Swift Creek Mouth and Suwannee Springs.

C). From Table 3.2-3 in EIS.

D). From Table 3.2-3 in EIS.

E). From Table 3.2-3 in EIS.

F). Calculated as a range, by dividing values of additional mass load by upstream mass loads.

G). Calculated using upstream mass loads presented in Row b.

H). Calculated using upstream mass loads presented in Row a.

Responses to C-10

1. The safety of freight movements are covered by regulations promulgated by the Materials Transportation Bureau of the Federal Department of Transportation. The regulations governing the transportation of hazardous materials by any mode are contained in 49 Code of Federal Regulations, Parts 100-189.

   These regulations are enforced by the Federal Railroad Administration under the Federal Department of Transportation.

   The Southern Railroad has served Occidental in movement of SPA, ammonia and phosphoric acid for 12 years with only minor problems.

2. Florida Power Corporation has been made aware of the scope and extent of the new facility. All present and future contracts are written on an interruptible basis.

3. As reported in the EIS Resource Document (Section 2.2.1.1) the only existing or permitted sources impacting on the air quality of the site are those sources owned and operated by Occidental. The potential FPC power plant at Ellaville, Florida was not considered since it is not permitted nor do design or emission data exist for the plant. If this plant is to be constructed at some time in the future, the air quality impact evaluation for that plant will have to take into account existing sources (Occidental and others) and the plant will have to be designed with consideration given to air quality existing at that time.

Responses to C-10 continued

4. The CRSTER air quality model was used only to develop critical meteorological conditions. The meteorological conditions so developed were then input to other models along with air pollutant emission data from all sources impacting on the study area. This includes both SCCC and SRCC sources.

5. The data presented in Table 3.1-3 of the EIS Resource Document are correct. Although quite unusual, the air quality modeling did predict a maximum 24-hour SO_2 level greater than the maximum 3-hour SO_2 level. This is apparently due to the location of the sources of SO_2 and the meteorological conditions considered.

   There is a typographical error in the text of page 3-6 of the EIS Resource Document. The data should be consistent with those presented in Table 3.1-3 of that document, showing a predicted increase in SO_2 levels between the periods 1977-78 and 1979.

6. Ongoing studies by EPA have not established the effect of fluoride emissions from gypsum and cooling water ponds. In a continuing effort to evaluate the potential of these emissions, the Florida Department of Environmental Regulation (FDER) and the Florida Phosphate Council are developing a Plan of Study to quantify pond fluoride emissions. A study of fluoride accumulation in the aquatic and terrestrial communities at the existing Occidental Chemical Company site has been completed, with no evidence of significant problems indicated.

Responses to C-10 continued

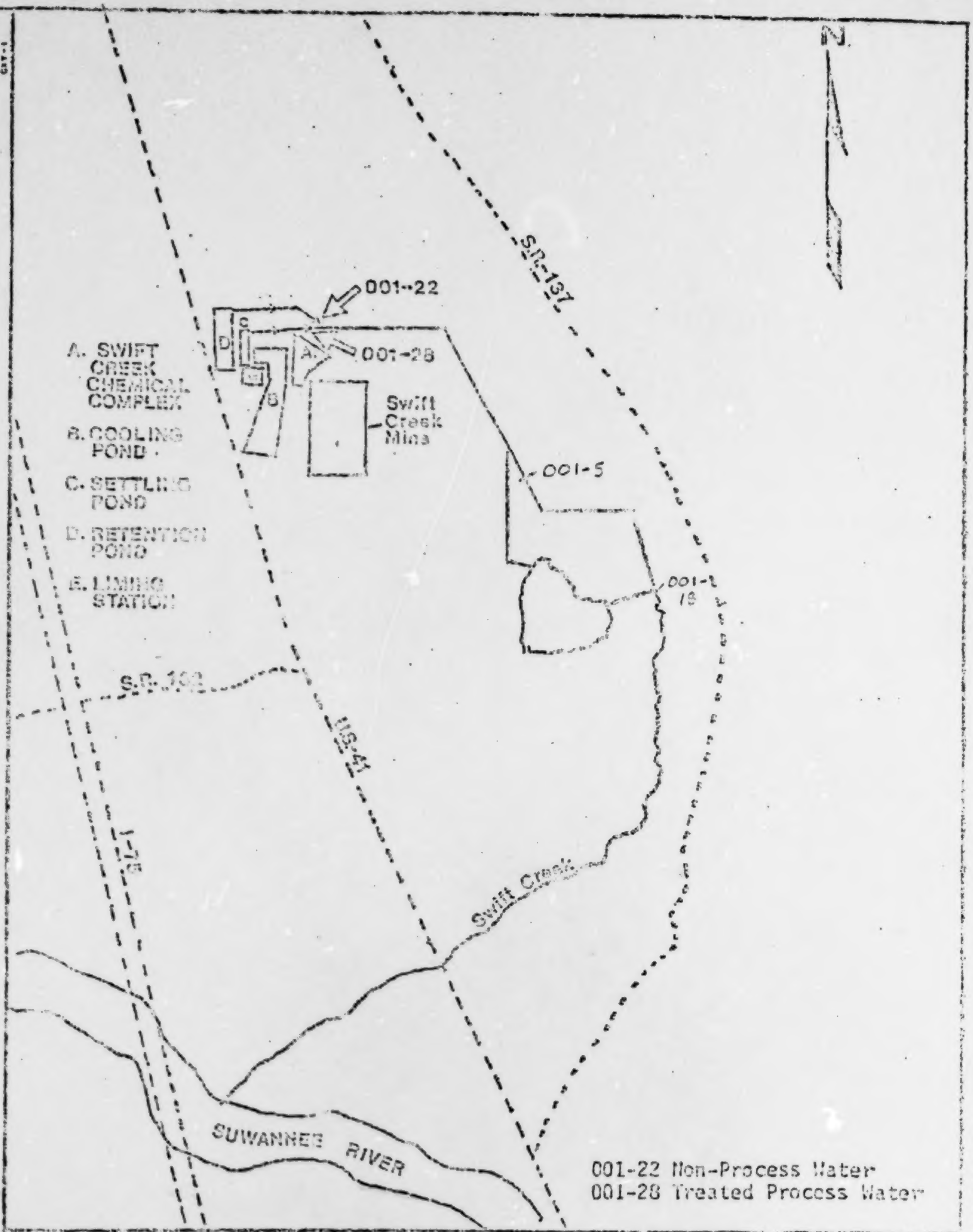
7. The map requested is reproduced as the following figure.

8. Figure 2.3-3 indicates that there exists a canal by-passing the section 10 pond. This by-pass is identified on the map as SC9. The test stresses the use of the section 10 pond as a polishing and retention pond in the routine flow of non-process water. The by-pass should either be filled (plugged) or adequate specification made as to its exact purpose. The need to bypass for reason of excess stormwater is questionable, since the water could be routed through the pond.

   The canal referred to is actually Swift Creek. The section 10 lake was constructed by Occidental for use only when turbidity problems were encountered in upper Swift Creek. Its existence does allow for another treatment step for effluents before entering Swift Creek at discharge point 001-18. When the section 10 lake is by-passed, effluent guidelines must be met at the point of discharge (001-22) prior to mixing with receiving waters or other waste streams.

9. See Response to T-8.

10. There is an apparent omission between pages 1-19 and 1-20 of the Resource Document. The misplaced material will be provided to all recipients of the Resource Document.



OCCIDENTAL CHEMICAL CO.

NPDES Sampling Points
Plate II
Swift Creek Complex

Responses to C-10 continued

11. Yes, the calculations did include volumetric changes due to sedimentation.

12. Double liming is recognized by the EPA as appropriate technology for treatment of waste waters. Occidental is required to take care of needs such as treatment chemicals, power, periodic testing, maintenance of the system. However, the neutralization plant will be put on the priority circuit in event of interruption by Florida Power in which case power will be supplied by the sulfuric acid plant turbine generators. In the design of the neutralization station the applicant will provide appropriate redundancy in the automatic instrumentation, and in addition, is planning to back up the instrumentation with manual systems.

13. See response to C-9.1.

14. The use of Beck's Biotic Index is addressed in the response to T12.

15. While it is true that statistical differences or lack of them does not always mean that the data is or is not different, statistics do remove much of the bias of the investigator and provides for the variation in a sampling program to be evaluated. The 0.05 probability level is generally used for biological work due to the variability associated with it. To extend the probability level to

Responses to C-10 continued

the 0.25 would be equivalent to saying that one is willing to accept the chance of being wrong 25% of the time. While this will slightly decrease the possibility of making a Type II error (acceptance of the null hypothesis when the alternative is true) it greatly increases the chance of a Type I error (rejection of the null hypothesis when it is true).

16. The State of Florida Department of Environmental Regulation (FDER), in July of 1978, designated, conditional upon EPA approval, the Suwannee River as a "special protection" designation of Outstanding Florida Waters. EPA agrees that a study of this nature would be beneficial. That portion of the River affected by discharges from Occidental will be subject to a further, detailed study to evaluate the environmental impact.

17. Table 2.6-1 gives only the natural flow in Swift Creek without the Occidental subsidy as stated in Section 2.6.2.2.1. As pointed out in Section 2.6.2.2.2, the Swift Creek natural flow is augmented by 20-25 cfs due to nonprocess water discharge from the present SRCC to give a total of 55 cfs at the USGS guaging station at Facil and 59 cfs at the mouth of Swift Creek.

18. No response necessary.

19. The Fluoride Study was a one time survey of fluoride levels in aquatic and terrestrial systems done as a provision of the

Responses to C-10 continued

NPDES permit applicable to existing facilities. These data are being evaluated by EPA at this time.

The Fluoride Study did not address cattle forage as the commenter suggests. Data on fluoride levels in cattle forage are presented in Section 2.2.2 of the Summary Document.

20. Because of the requirement for periodic renewal of permits, any plan to abandon gypsum piles will be known in time for both the State and Federal government to consider appropriate environmental controls in the light of then existing laws and regulations. See also response to C-9.1.

21. Fluoride that might result from gypsum stacks would be in an insoluble particulate form. Studies conducted in conjunction with the EIS around the 12-year old Occidental gypsum stack have not determined any form of fluoride to be a problem (Summary, Section 2.2.2). This observation is reinforced by the Fluoride Study referenced in response C-10.19.

22. The Hawthorn Formation at the subject site generally extends between elevation 120' (MSL) and elevation 10' (MSL) (Section 2.4 of Summary Document). There is a 20' minimum difference in elevation between the expected bottom of the mine pit and the

Responses to C-10 continued

top of the confining unit. Examination of pit bottom by a mining geologist and documentation of the elevation of pit bottom in pit take-up maps is practiced by the Occidental mining groups. These maps have and will be examined by the design engineer prior to constructing the gypsum stack and cooling pond. There is little likelihood that mining operations will have any adverse effect on the condition of the confining unit.

C-11

Columbia County Environmental Council
P. O. Box 596 ▼ Lake City, Florida 32055

August 23, 1978

Mr. John E. Hagan
Chief, EIS Branch
EPA
Region IV
345 Courtland St.
Atlanta, Ga.
30308

Dear Mr. Hagan:

This statement supersedes and replaces all notes submitted by me on August 21, 1978, at the White Springs hearing. Those notes and this statement are submitted under protest of the hearing rule for 5 minute presentations and EPA action denying me the use of my own extension cord, which was already rigged.

Some news articles are included for your inspection.

Sincerely yours,
J Frank Sedmera,
Director for Natural Systems

Columbia County Environmental Council
P. O. Box 596 ▼ Lake City, Florida 32055

August 22, 1978

Comments for the Draft EIS and NPDES Permit for Swift Creek Chemical Complex

This statement supersedes and replaces the notes submitted on August 21, in their entirety.

We are active in this issue because we want to protect the Suwannee River. We do not believe that OXY must shut down in order to do that. We believe that protection can be achieved if OXY will seriously make the effort to do the last little bit that is necessary.

The Draft EIS is large. Because of its size it is vulnerable to "nit-picking." We shall not do that but instead will focus on three significant problems.

We did not look at the sections on radiation or the socio-economics in enough detail to have an opinion of the Draft. The Draft is particularly strong in the sections on water chemistry analysis although some of the conclusions don't really follow from the data given. The sections on physical air quality are also very good and we have no major arguments with them.

Now for the three points.

I. The EIS makes it possible to give evidence that OXY was not meeting 1974 permit requirements. The public was being told that all requirements were being met.

The EIS calculated average mass loadings in Swift Creek over a period of time and presented that information alongside the mass loadings that would have occurred if the modified NPDES permit were barely being met. The numbers are identical. We took USGS data for Swift Creek

Evidence For Oxy Not Meeting 1974 Permit Rqmts

$21.4 \times 10^6 \frac{gal}{day}$ avg. disch. from both mines and the SR Chem. Plant

$21.4 \times 10^6 \frac{gal}{day} = 78.7 \times 10^6 \frac{l}{day}$

avg. Tot P allowed under modified permit $35 \frac{mg}{l}$

$78.7 \times 10^6 \frac{l}{day} \left(35 \frac{mg}{l}\right) = \boxed{2758\ kg/day\ \text{tot P}} \approx 3\ tons/day$

$\boxed{\text{EIS measures } 2300\ kg/day\ \text{tot P}} \approx 2.5\ tons/day$

We took USGS data and calculated 2739 kg/day at Facil 4/77 - 4/78

Now, the $21.4 \times 10^6 \frac{gal}{day}$ flow is supposed to be the avg. flow for both mines and the SR Chem. Complex but the S.C. Mine was not in operation during the time when the USGS data was taken (in our avg.). We are seeing a mass loading only from the SR mine and Chem. Plant that is equal to that "allowed" for that plus the S.C. Mine under the modified permit. Our data period was under the 1974 permit and without the S.C. Mine in operation.

FIGURE 1

5 Squares to the Centimeter

and the flow rate given for average discharge from the SR Mine, SR Chemical Plant, and SC Mine. The USGS data for 4/77 to 4/78 indicated mass loadings for Total P somewhat higher than those given by the EIS. See Fig 1. Now for the period 4/77 to 4/78 the SC Mine was supposedly shut down. We still see high mass loadings.

If the EIS average discharge rate given is correct then Total P concentrations would be somewhat higher than 35 mg/l _with_ SC Mine operating. Without SC Mine, the concentrations would be considerably higher yet. During the period 4/77 to 4/78 the 1974 permit allowed a maximum of 10 mg/l Total P. We see that actual mass loadings indicate concentrations of more than 3 X that standard, on the average.

II. Water chemistry calculations show that Swift Creek is dominated by OXY and that the Suwannee is highly modified by Swift Creek. This correlates with a biological assessment which shows that Swift Creek is biologically stressed.

In Figure 2 the Total P concentrations in Swift Creek are compared with a control stream, Rocky Creek. USGS data for the period Oct. 1970 to June 1976 is used. Concentrations in Swift Creek are divided by concentrations in Rocky Creek. Samples may have been taken one day's difference in time for the two streams but no more than that. The two creeks were most nearly the same on 8/23/72 when Swift Creek Total P concentrations were only 6.8 times larger than Rocky Creek concentrations. The two creeks were farthest apart on 2/13/74 when concentrations in Swift Creek were 615 times higher than Rocky Creek.

Doing the same thing for Dissolved NH_3 we see, in Figure 3, that the two creeks are most nearly alike on 12/9/70 and 2/14/72, when Swift Creek concentrations were 19 times higher than those in Rocky Creek. On 9/30/75 we see Swift Creek concentrations 500 times higher than those in Rocky Creek.

For what it is worth, the average value for the Total P comparison is 211 times. The average for Dissolved NH_3 is 139.

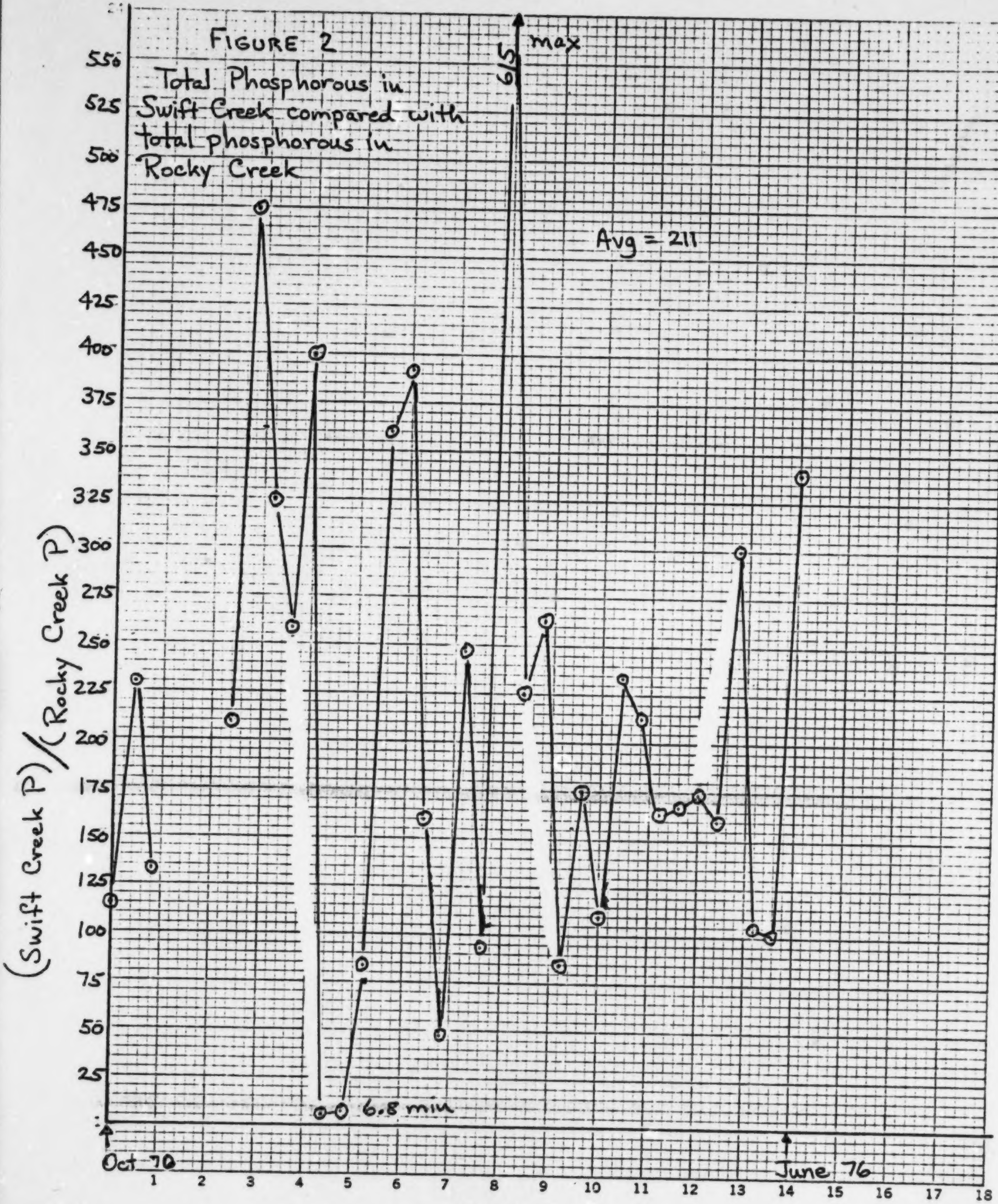


FIGURE 2

Total Phosphorous in Swift Creek compared with total phosphorous in Rocky Creek

5 Squares to the Centimeter

FIGURE 2

	Total Phosphorous in Swift Creek mg/l	Total Phosphorous in Rocky Creek mg/l	$\frac{(\text{Swift Creek})}{(\text{Rocky Creek})}$		Total Phosphorous in Swift Creek mg/l	Total Phosphorous in Rocky Creek mg/l	$\frac{(\text{Swift Creek})}{\text{Rocky Creek}}$
10/6/70	9.1	0.08	114	10/2/73	15.8	0.064	247
12/9/70	16.0	0.070	229	12/7/73	14.0	0.150	93
2/4/71	12.0	0.090	133	2/13/74	40	0.065	615
4/27/71				4/3/74	18	0.080	225
6/23/71				6/4/74	42	0.160	263
8/19/71				8/7/74	17	0.20	85
7/10/71	23.0	0.110	209	10/8/74	30	0.17	176
12/7/71	19.0	0.04	475	12/4/74	11	0.11	110
2/14/72	6.5	0.02	325	2/6/75	9.3	0.04	233
4/25/72	16.0	0.062	258	4/1/75	8.5	0.04	213
6/27/72	14.0	0.035	400	6/2/75	18	0.11	164
8/23/72	1.3	0.190	6.8	8/12/75	15	0.09	167
10/10/72	14.0	0.20	7.0	9/30/75	26	0.15	173
12/4/72	21.0	0.25	84	12/9/75	24	0.15	160
2/7/73	7.2	0.020	360	2/3/76	15	0.05	300
4/3/73	9.8	0.025	392	4/6/76	8.3	0.08	104
6/5/73	9.6	0.06	160	5/3/76	25	0.26	100
8/8/73	7.1	0.15	47	6/3/76	17	0.05	340

$\frac{6968}{33} = \boxed{211}$ avg ratio

5 Squares to the Centimeter

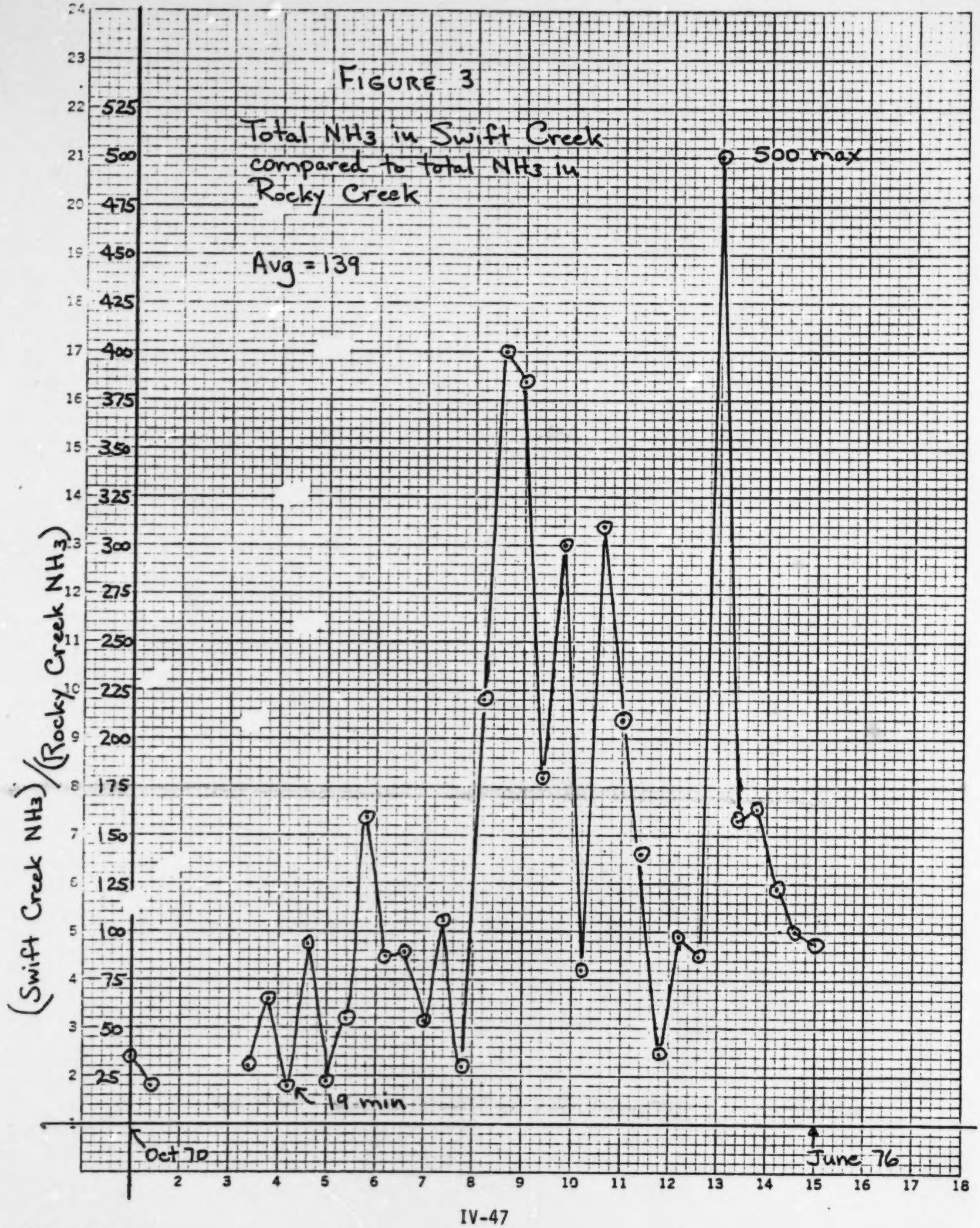


FIGURE 3

Total NH3 in Swift Creek compared to total NH3 in Rocky Creek

Avg = 139

5 Squares to the Centimeter

FIGURE 3

	Total NH3 in Swift Creek mg/l	Total NH3 in Rocky Creek mg/l	(Swift Creek) / Rocky Creek		Total NH3 in Swift Creek mg/l	Total NH3 in Rocky Creek mg/l	
10/6/70	2.1	0.16	35	10/2/73	4.4	0.02	220
12/9/70	1.5	0.08	19	12/7/73	4.0	0.01	400
2/4/71				2/13/74	23	0.06	384
4/27/71				4/3/74	7.2	0.04	180
6/23/71				6/4/74	9	0.03	300
8/19/71				8/7/74	1.6	0.02	80
10/7/71	1.8	0.06	30	10/8/74	6.2	0.02	310
12/7/71	8.4	0.13	65	12/4/74	2.1	0.01	210
2/14/72	2.9	0.15	19	2/6/75	4.2	0.03	140
4/24/72	2.8	0.03	93	4/1/75	2.6	0.07	37
6/26/72	1.1	0.05	22	6/2/75	4.9	0.05	98
8/22/72	2.8	0.05	56	8/12/75	4.4	0.05	88
10/10/72	4.8	0.03	160	9/30/75	10	0.02	500
12/4/72	2.6	0.03	87	12/9/75	11	0.07	157
2/6/73	5.4	0.06	90	2/3/76	6.5	0.04	163
4/5/73	1.6	0.03	53	4/6/76	7.4	0.06	123
6/5/73	5.3	0.05	106	5/3/76	6.0	0.06	100
8/8/73	0.57	0.02	29	6/3/76	4.7	0.05	94

$\frac{4448}{32} = \boxed{139}$ avg

5 Squares to the Centimeter

P and N are primary plant food materials. They are necessary for life in a stream. But Rocky Creek and other north Florida creeks are supporting living systems. While there is evidence that some more P and N may be desirable, excessive levels of P and N can cause problems, just as overfertilization of a lawn or garden or field can cause problems. The EIS reports that 0.1 mg/l P is about as much as can be effectively used by a stream. We see numbers in Swift Creek that range from 11 times that number to 230 times that number.

The EIS concludes that P concentrations are certainly high enough that biological problems are expected. Yet the EIS also concludes that no biological problems in Swift Creek could be found. A qualified biologist has taken EIS biological data and shown that when actual numbers of organisms (invertebrates) are considered, Swift Creek is indeed stressed. Indicator organisms in Swift Creek are almost entirely in the moderately-tolerant-to-pollution to the highly-tolerant-to-pollution classes. The control streams show mostly intolerant to moderately tolerant invertebrates. This is at considerable variance with EIS findings using the same data.

The EIS also concludes that there must be some unknown "limiting factor" that is preventing biological damage under these very unusual chemical conditions. The consultants admit that they do not understand what that limiting factor (or factors) is. They hypothesize about dark water and fast flow. The point is, we don't know what is stopping the damage from being really bad. If we don't know what it is then we don't know how to avoid removing it. That being the case, we have no business putting Swift Creek into that condition. That is the stuff that disasters are made of and we seem almost curious about why we cannot cause one.

Now, what effect does Swift Creek have on the Suwannee? If we compare mass loadings and also look at what these do to concentrations in the Suwannee, we see danger signals for the Suwannee.

Mass loadings of orthophosphorous as P in Swift Creek and in the Suwannee at White Springs were calculated for the period Oct 76 - Apr 78. Similar calculations were done for NH_3 and F. USGS data was used. Figure 4 compares the mass loading of P in Swift Creek with that in the Suwannee on the same day. Swift Creek loadings were divided by Suwannee loadings. We see the closest agreement on 2/1/77 when Swift Creek only had 5 times as much P as the Suwannee did. The other extreme was reached on 8/1/77 when Swift Creek had 151 times as much P as the Suwannee did. Figure 4 also shows what happened to the concentrations of P in the Suwannee after Swift Creek discharged into it. Again the concentrations below and

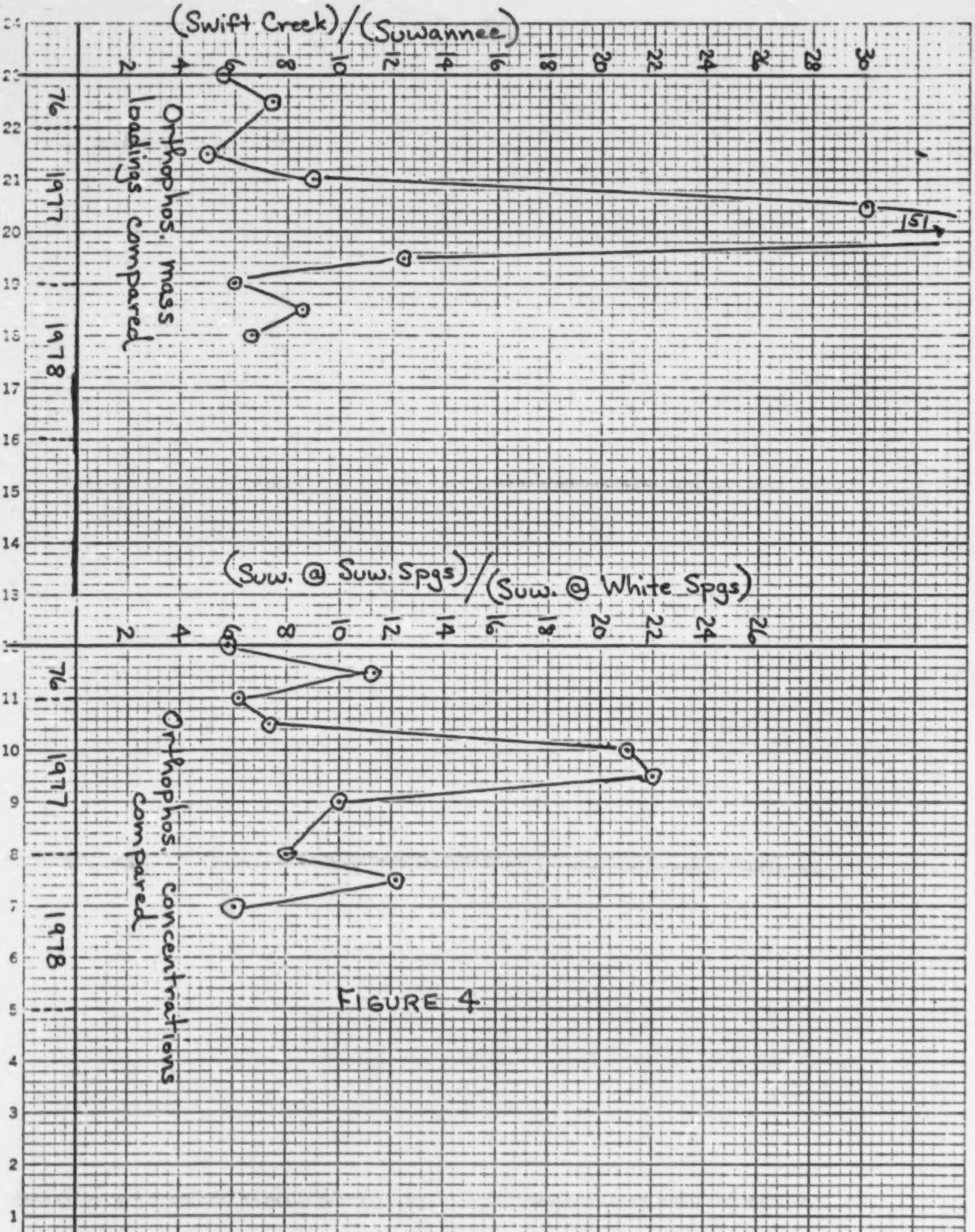


FIGURE 4

5 Squares to the Centimeter

Orthophos. as P

	Suwannee at White Spgs. gm/sec	Swift Creek at Facil gm/sec	(S.C.)/(S.R.)	Suwannee at White Spgs mg/l	Suwannee at Suwannee Spgs mg/l	(S@S.S.)/(S@W.S.)
10/5/76	3.24	18.1	5.6	0.08	0.47	5.88
11/30/76	6.78	49.5	7.3	0.06	0.68	11.3
2/1/77	6.9	33.7	4.9	0.05	0.31	6.2
4/13/77	2.28	20.8	9.1	0.09	0.66	7.33
6/6/77	0.4	11.8	30	0.19	4.0	21.1
8/1/77	0.2	30.6	151	0.31	6.9	22.3
10/4/77	3.03	37.4	12.3	0.17	1.7	10
12/12/77	4.86	29.0	6	0.09	0.71	7.9
2/6/78	6.1	52.3	8.6	0.05	0.61	12.2
4/10/78	5.94	40.0	6.7	0.12	0.73	6.1

FIGURE 4

5 Squares to the Centimeter

NH_3 as N

	Suwannee at White Spgs gm/sec	Swift Creek at Facil gm/sec	(S.C.)/(S.R.)	Suwannee at White Spgs mg/l	Suwannee at Suwannee Spgs mg/l	(S@S.S.)/(S@W.S.)
10/5/76	2	5.2	2.6	0.05	0.10	2
11/30/76	3.4	25	7.4	0.03	0.19	6.3
2/1/77	4.1	19	4.6	0.03	0.11	3.7
4/13/77	1.8	6.3	3.5	0.07	0.26	3.7
6/6/77	0.04	4.6	110	0.02	0.17	8.5
8/1/77	0.013	13	1000	0.02	1.4	70
10/4/77	1.1	32	29	0.06	0.08	1.3
12/12/77	2.2	12	5.5	0.04	0.18	4.5
2/6/78	3.7	20	5.4	0.03	0.24	8
4/10/78	4	20	5	0.08	0.29	3.6

FIGURE 5

5 Squares to the Centimeter

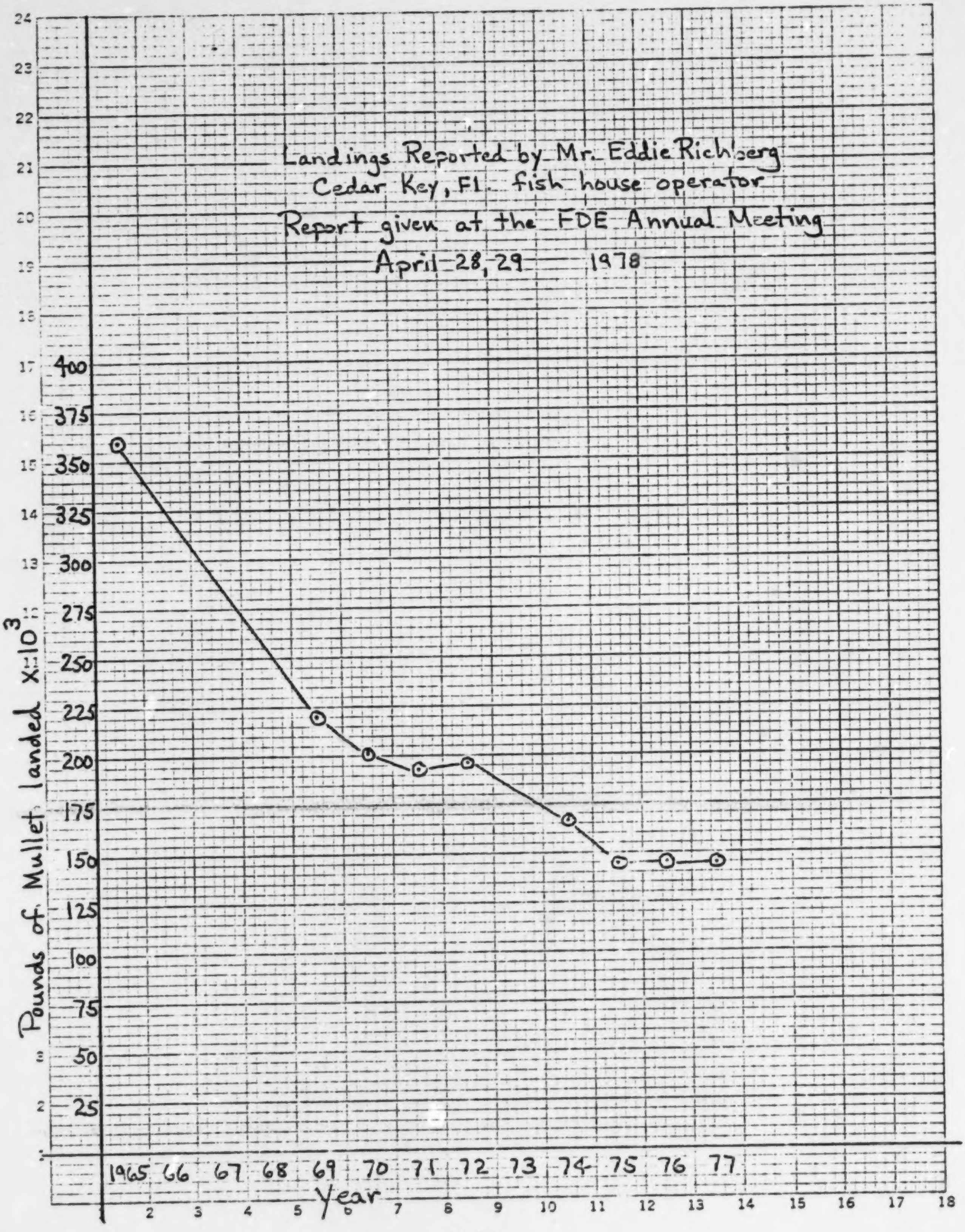
above Swift Creek are compared. In the case of least effect, on 10/5/76, we see that the concentration of P below Swift Creek is 5.9 times that above. In the case of maximum effect the concentration below is 22 times that above.

Looking at Figure 5 and the numbers for NH_3 we see that on 10/5/76, Swift Creek was carrying only 2.6 times the NH_3 as the Suwannee but on 8/1/77, Swift Creek was carrying 1000 times the NH_3 that the Suwannee was. What happened to concentrations in the Suwannee? On 10/4/77 Swift Creek only raised the NH_3 concentrations by 30% but on 8/1/77, Swift Creek raised the concentration by 700%.

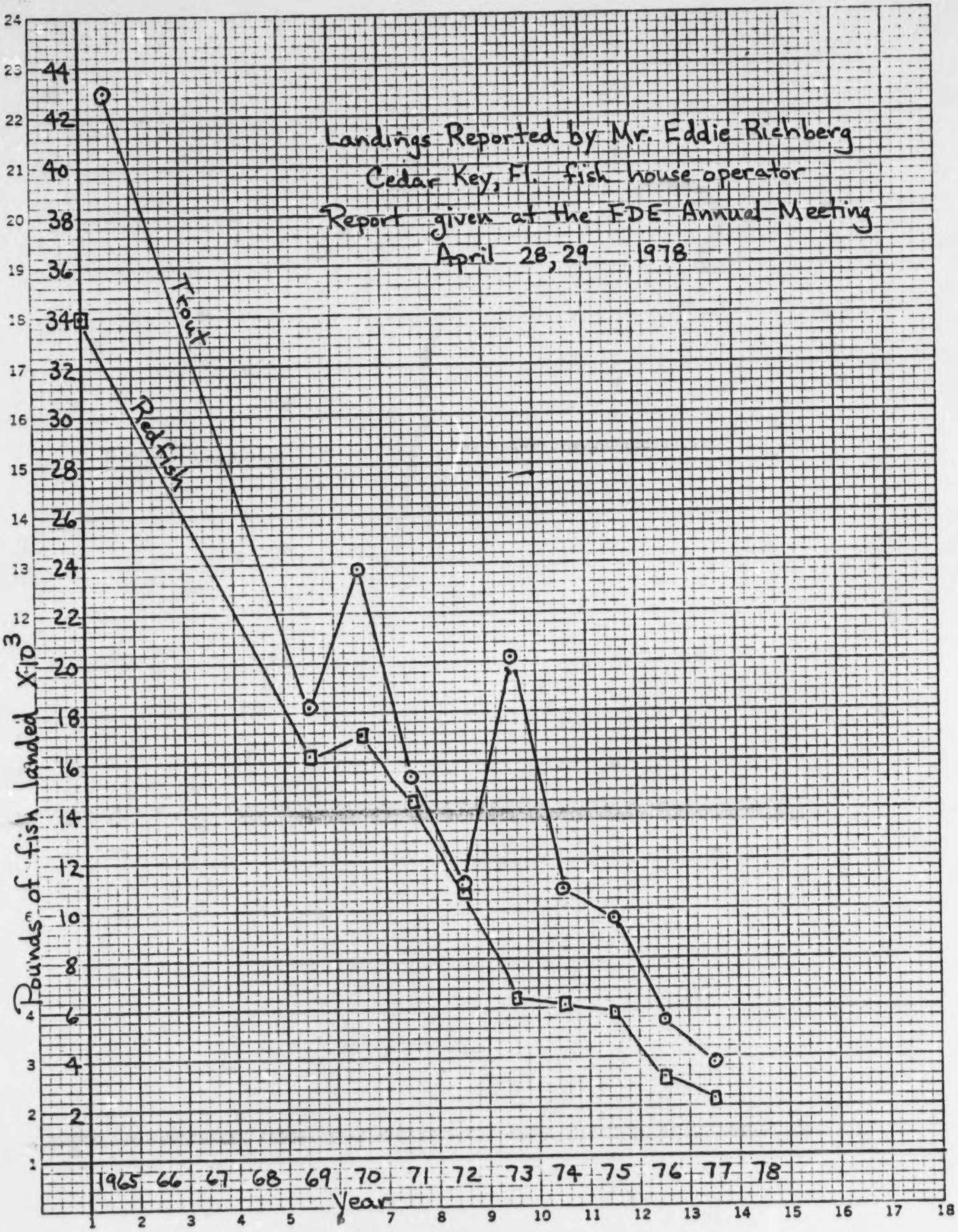
You will note that the time of maximum change in concentration occured for the period when the Suwannee had an abnormally low flow rate, on 8/1/77. Near

White Springs a person could literally jump from rock to rock across the river and never get wet. The river was already under severe stress because of the low water. Organisms were in isolated pools with little mobility. Then Swift Creek dumps in and radically alters the chemistry. Does this really make sense for such a valuable resource?

And what about the Suwannee under more normal flow conditions? Is the Swift Creek discharge actually causing damage? We honestly cannot say that it is but neither could we say that about Swift Creek until the EIS became available. We have heard from a commercial fisherman who has records of a dramatic decline in the Suwannee River fishery over many years. We feel


Landings Reported by Mr. Eddie Richberg
Cedar Key, Fl. fish house operator
Report given at the FDE Annual Meeting
April 28, 29 1978

5 Squares to the Centimeter



5 Squares to the Centimeter

Landings Reported by Mr. Eddie Richberg
Cedar Key, Fl. fish house operator
Report given at the FDE Annual Meeting
April 28, 29 1978

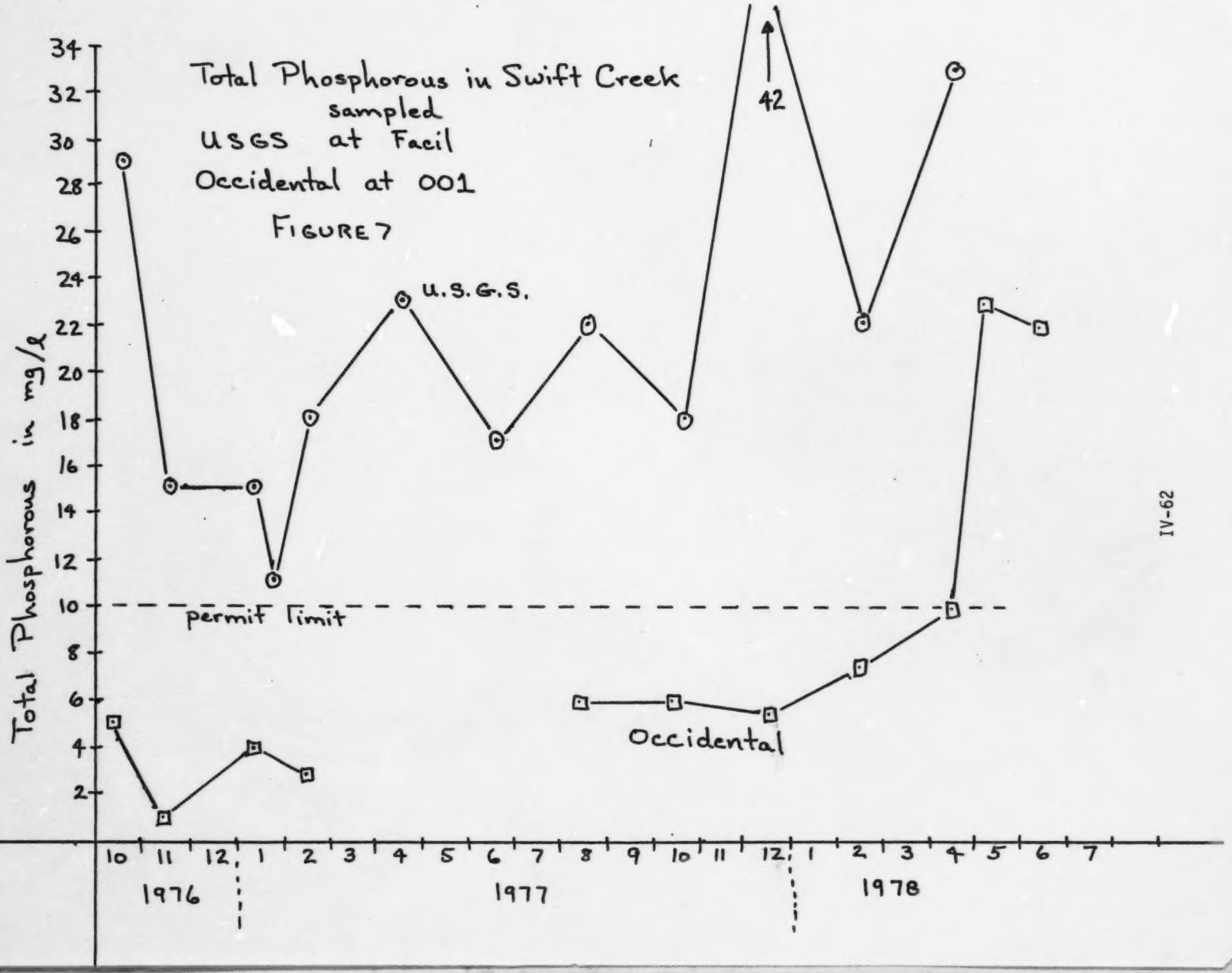
Date	Mullet in lbs X10^3	Trout in lbs X10^3	Red fish in lbs X10^3
1965	360	43	34
1969	220	18.2	16.2
1970	201	23.8	17.1
1971	193.2	15.5	14.5
1972	196.4	11.0	10.8
1973		20.2	6.4
1974	162.2	10.9	6.1
1975	145.4	9.6	5.8
1976	146	5.6	3.2
1977	145	3.8	2.3

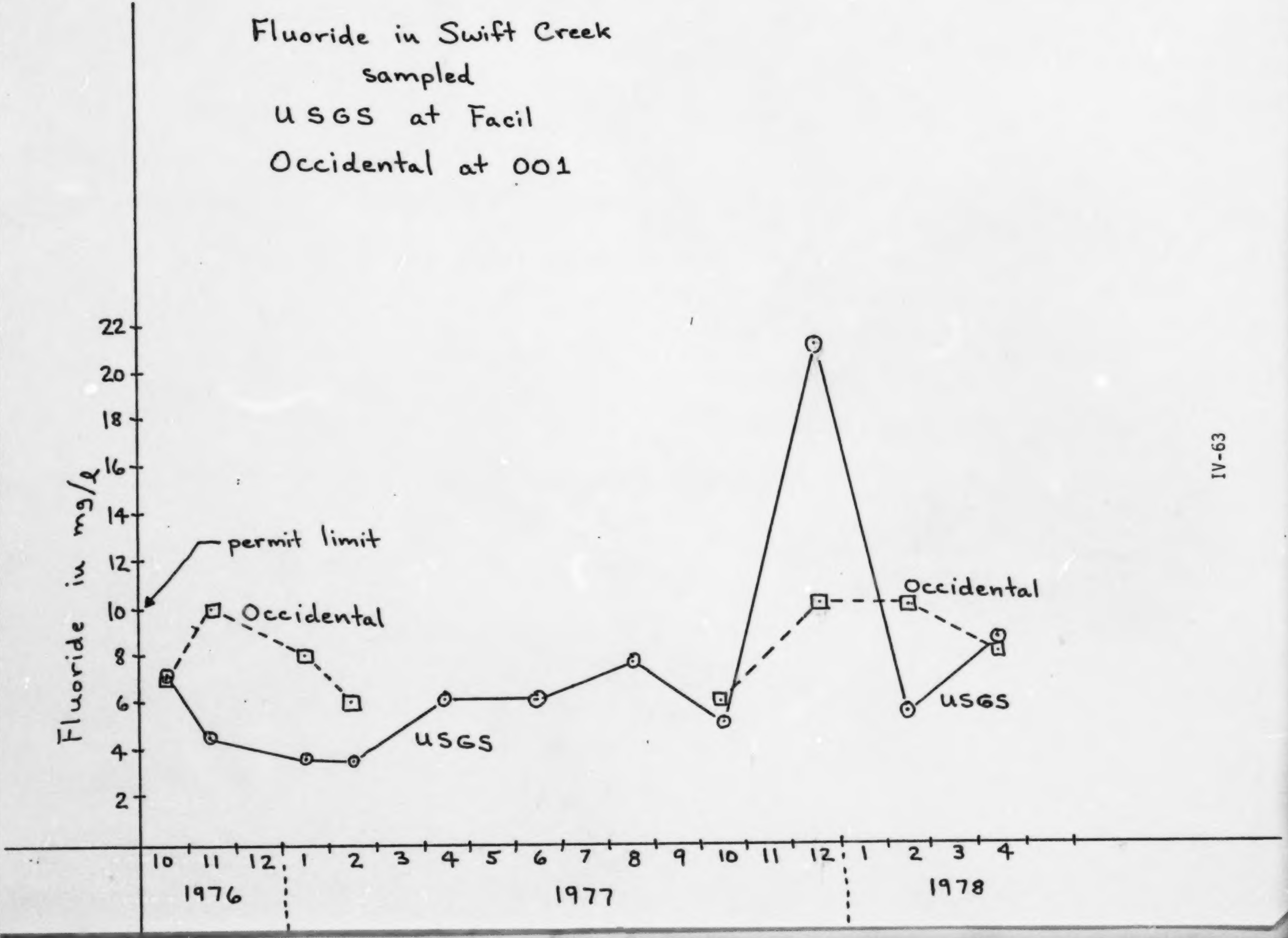
5 x Squares to the Centimeter

that the stress found in Swift Creek together with the Suwannee fishery decline gives justification for a truly serious study of the biological systems in the Suwannee and its estuaries. The EIS just did not do much of a job on the Suwannee. In light of its failing to find the stress in Swift Creek it could hardly be expected to recognize stress in the Suwannee.

III. There is a demonstrated need for considerably more on-site verification of OXY conditions by EPA and DER.

We used the Freedom of Information act to get copies of the monthly reports that OXY submitted to EPA under the


Total Phosphorous in Swift Creek
sampled
USGS at Facil
Occidental at 001
FIGURE 7



Fluoride in Swift Creek
sampled
USGS at Facil
Occidental at 001

	USGS for Swift Creek at Facil			Monthly report by Occidental for station 001 (Swift Creek)					
				Total P			Fluoride		
	Total P mg/l	Fluoride mg/l	pH	min	mean	max	min	mean	max
10/4/76	29	7.2	6.4	23	3.2	4.9	4	5.5	7
11/30/76	15	4.4	6.5	0	.4	1.0	7	8	10
1/4/77	15	3.5	6.2	2.6	3.3	3.9	5	6	8
1/31/77	11	3.5	6.5	2.6	3.3	3.9	5	6	8
2/28/77	18	3.4	6.7	2	30	3	4	5	6
4/13/77	23	6.0	6.7						
6/6/77	17	6.0	6.5						
8/1/77	22	7.7	6.3	3.9	4.6	5.9	5	6.2	8
10/3/77	18	4.8	6.5	4.2	5.0	5.9	5	5.8	6
12/12/77	42	21	4.6	2.6	4.0	5.5	7	8	10
2/6/78	22	5.7	6.3	3.6	5.8	7.5	1	5.7	10
4/10/78	33	8.8	6.8	4	8	10	4	6	8

FIGURE 6

1974 permit. We have compared P and F data with available data on Swift Creek from the USGS. We note a strange thing. There are no known significant sources or sinks of P or F between station 001 and the USGS. Yet USGS P concentrations are all much higher than what OXY found. See Figure 7. At the same time OXY found more F than the USGS did, except for 12/12/77. Another strange thing is that OXY began to find much more P at station 001 beginning 5/78.

Refer to the news article of 7/13/78 in the Lake City Reporter. We note that April 1978 was the last month for the alleged violations of standards. We make no charges of a cover-up in the reports.

Oxy chief admits pollution coverup

7/13/78

By DEBBIE NORTON

Occidental Chemical Company could face criminal and civil penalties for violating government restrictions on fluoride emmissions at one of its three White Springs plants, a spokesman for the state Department of Environmental Regulation (DER), said.

According to a letter informing DER of the violations from M.P. MacArthur, new vice president and general manger of Occidental, the violations apparently were condoned by the former management and only changed after MacArthur was appointed this spring.

The letter, written in May, said decisions "apparently made by prior management" were made to cover up frequent fluoride pollution violations made between December 1976 and April 7, 1978, with inaccurate reports.

Doug Dutton, chief of the DER substation in Jacksonville, said the company could be forced to pay up to $5,000 for each day the plant was in violation of DER's regulations

"I don't anticipate that, but there will definitely be some type of enforcement action taken," Dutton added.

Occidental, which was also violating the federal regulations on fluoride emissions, could also face punishment from the Environmental Protection Agency.

Dutton also said the management of the company would have had to have known about the violations for them to have occurred.

"It seems difficult to me that they (the violations) would have been accidental," Dutton said. "There would have had to have been some type of management decision. At what level, we're still trying to determine."

The violations were discovered last April after Occidental performed an internal audit of its fertilizer plants.

Occidental shut down the plant which was emitting more fluoride than allowed and voluntarily informed DER of the violations.

The plant was reopened Tuesday after DER gave the company a new permit to operate based on corrections made in the emmissions of the pollutant.

Occidental public relations officer Ray Kirkland insisted, though, that the plant was in violation of DER regulations only "from time to time" and that management could well have been unaware of them.

"There is every possibility that the internal audit (of pollutants) done prior to the one this year could have been made during a time when the plant was operating within the parameters (of fluoride emission standards)."

MacArthur took over as general manager of Occidental on March 1, replacing Maywood Chesson, who now works for the Mississippi Chemical Co. near Lakeland.

Louis Hubener, in the legal department of DER, is in charge of an ongoing investigation that is now reviewing technical reports and data to determine more details on the extent and cause of the violations. He said the law provides for both criminal and civil penalties, depending on the circumstances. He noted that Occidental "wants to cooperate as much as it can."

The letter noted that the plant, one of three at the Occidental complex,

(Turn to OXY, P-12)

Continued Story

Oxy

was shut down on April 7 after a review of the operations revealed the discrepancy in reports. A meeting was held in Houston with the parent company, Hooker Chemical Co., and the decision was made to shut down the plant, which makes diammonium phosphate, a fertilizer. Occidental had been exceeding the state requirement that fluorides emissions not exceed 34 pounds in a 24-hour period.

The plant was reopened in 24-hour period.

Dutton said DER officials observed Occidental testing operations that indicated proper emissions of fluorides and other chemicals. But after the tests were over, Occidental changed the flow of acid into the plant, which resulted in the emissions violations.

MacArther wrote that the "compliance monitoring tests" run by Occidental and sent to DER were based on different conditions than normal operating conditions of the plant.

"Well-intentioned, certain employees of Occidental Chemical participated in or knew of the actions . . ," the letter read. "Some of these employees are no longer with Occidental Chemical. Those other employees who are still with the company will be subject to appropriate disciplinary action after my review for not carrying out the company's environmental policy."

Dutton said the reports to DER came in on a monthly basis. He said the incident has pointed up the need for more double-checking by the state on reports provided to the state by the industry holding a state pollution permit. "There's no way with the resources we have," he said. "It's impossible for us to monitor the type of monitoring we require of these companies."

Dutton said at one point that the back-up monitoring being done by DER "probably would have detected" the emissions violations anyway, but he added, "If they're going to cheat, you can't cover everything."

"We observed the testing procedures ourselves and there was nothing wrong with the emissions at the time of testing. But they just weren't operating under the same conditions," he said.

MacArthur wrote that Occidental will provide monthly audits plus verification by an outside consultant on its operation until "management is assured that the company's environmental policy is being fully carried out."

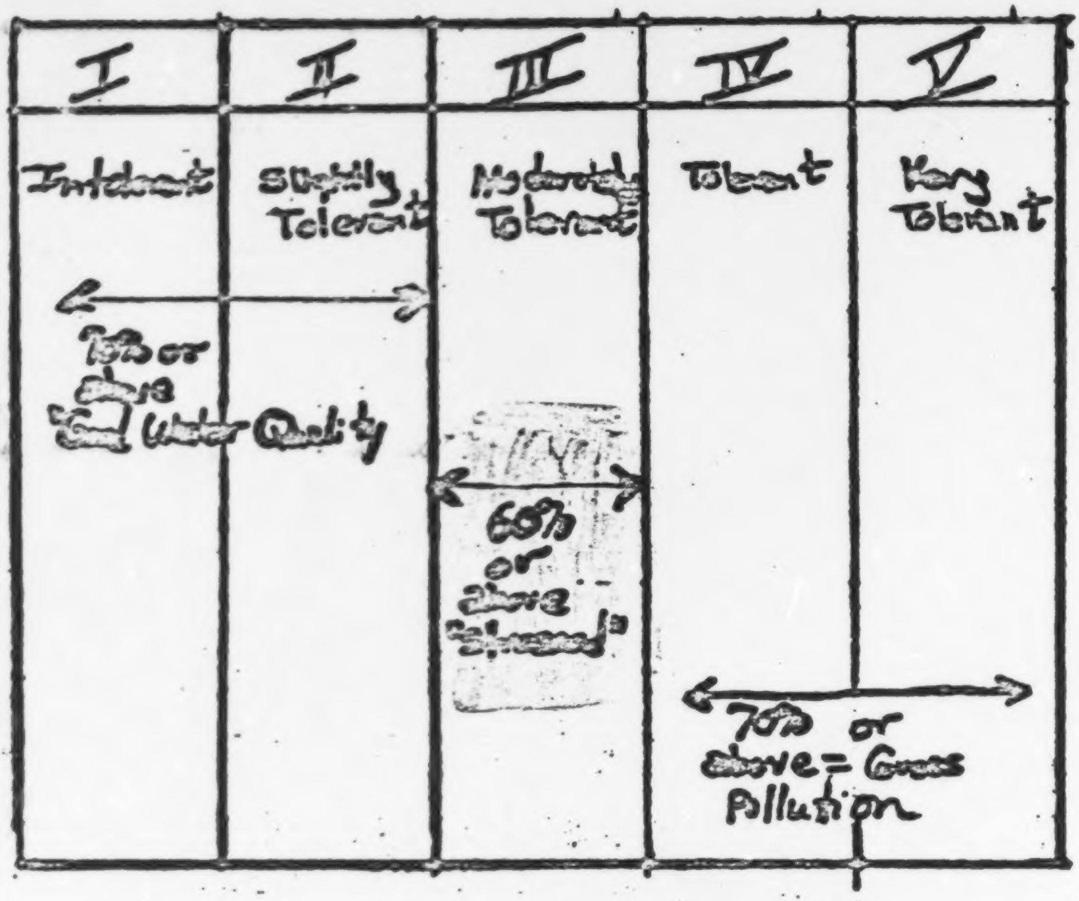
Fluoride is the same chemical put into many public water supplies to help reduce tooth decay, but its dispersal into the environment is limited by state and federal laws because it becomes a poison, accumulating in organisms in much the same way as DDT over a long period of time. Too much fluoride is said to cause weakening of teeth and bones, and opponents of putting fluoride in public drinking water say it can cause cancer.

We have no direct proof of that. What we do want to remind everyone of is that we expressed concern that DER only made inspections approximately twice a year and that they were usually pre-announced. In the February hearing we learned that EPA may never have come to verify conditions. Mr. Bill Thomas, of DER, assured us, at the Feb. hearing, that a cover-up would not be possible for very long. Here is a report of one that went on for some 16 months. There is a clearly demonstrated need for more verification by both DER and EPA.

Submitted by:
J. Frank Sedmera,
Director for Natural Systems
C.C.E.C.

This is not our statement. It is included for your information.
Frank Sedmera

Beck's Biotic Class



I	II	III	IV	V
Intolerant	Slightly Tolerant	Moderately Tolerant	Tolerant	Very Tolerant
75% or above "Good Water Quality"		60% or above "Stressed"	70% or above = Gross Pollution	

Benthic Organisms - Natural Substrates - Fall 77

tation d sample	Percentage of organisms collected by Beck's Biotic Class				
	I	II	III	IV	V
C-1(1)	10	10	80	0	0
C-1(2)	15.4	7.7	76.9	0	0
C-1(3)	34.6	12.9	12.5	0	40.5
	60	30.6	169.4	0	40.5
C-1$\underline{x}$	20	10.2	56.5	0	13.5
C-2(1)	1	2	97	0	0
C-2(2)	0.7	2.8	95.2	0	1.4
C-2(3)	5.3	0	94.7	0	0
	7.0	4.8	286.9	0	1.4
C-2$\underline{x}$	2.3	1.6	95.6	0	.5
C-3(1)	38.4	46	1.7	0	13.8
C-3(2)	19.7	63.6	6	0	10.6
C-3(3)	6.6	39.9	36.6	3.3	6.7
	64.7	149.5	44.3	3.3	31.1
C-3$\underline{x}$	21.6	49.8	14.7	1.1	10.3
C-4A(1)	28.8	61.1	1.0	0	9.0
C-4A(2)	32.8	37.5	16.1	0	13.6
C-4A(3)	43.3	40.1	11.5	0	4.8
	104.9	138.7	28.6	0	27.4
C-4A$\underline{x}$	35	46.2	9.5	0	9.1

Benthic Organisms - Natural Substrates - Fall 77

tation nd sample	Percentage of organisms collected by Beck's Biotic Class I	II	III	IV	V
C-4B(1)	33.6	55.1	2.6	0	7.1
C-4B(2)	62.8	15.6	14.4	0	7.9
C-4B(3)	34.9	21.3	43.1	0	0.8
	131.3	92	60.1	0	15.8
C-4BX	43.8	30.7	20	0	5.3
C-5(1)	62.4	27.8	2.2	0.2	7.3
C-5(2)	60.5	20.6	10.8	0.3	7.9
C-5(3)	56.7	31.8	9.2	0.2	2.8
	179.6	80.2	22.2	0.7	18
C-5X	59.9	26.7	7.4	0.2	6
C-6(1)	23.1	17.5	56.1	0	2.8
C-6(2)	1.6	28.9	59.6	0	9.7
C-6(3)	5.8	21.6	72.3	0	0
	30.5	68	188	0	12.5
C-6X	6.1	22.7	62.7	0	4.2
C-7(1)	0.28	1.35	98.54	0	0.51
C-7(2)	0	0.16	99.62	0	0
C-7(3)	0.24	0.48	98.96	0	0.3
C-7(4)	5.5	1.0	92.8	0	0.9
	6.02	3.43	389.92	0	1.61
C-7X	1.5	0.9	97.5	0	0.4

Benthic Organisms - Natural Substrates - Fall 77

tation nd sample	Percentage of organisms collected by Beck's Biotic class				
C-8(1)	0.08	0.08	99.83	0	0
C-8(2)	0	0	100	0	0
C-8(3)	0	0	100	0	0
	0.8	0.8	299.83	0	0
C-8X	0.3	0.3	99.9	0	0
C-9(1)	0.8	13.5	84.6	0.3	0.8
C-9(2)	4.6	22.7	59.0	0	13.6
C-9(3)	3.6	12.0	80.9	0	3.6
	9.0	48.2	224.5	0.3	18
C-9X	3	16.1	74.8	0.1	6
C-9.5(1)	4.4	12.1	73.0	0	1.7
C-9.5(2)	0	32.6	56.5	0	10.9
C-9.5(3)	5.5	14.1	66.1	0	14.1
	9.9	58.8	204.6	0	32.1
C-9.5X	3.3	19.6	68.2	0	10.7
B-1(1)	0	26.7	46.9	0	26.6
B-1(2)	0	7.1	85.6	0	7.1
	0	33.8	132.5	0	33.7
B-1X	0	16.9	66.3	0	16.9

Benthic Organisms - Natural Substrates - Fall 77

tation d sample	Percentage of organisms collected by Beck's Biotic Class I	 II	 III	 IV	 V
RO-2(1)	22.3	46.1	22.3	0	9.6
RO-2(2)	16.3	41.3	25.6	0	22.6
RO-2(3)	4.6	76.2	15	0	4.3
	43:2	163.6	62.9	0	36.5
O-2 X	14.4	54.5	21.0	0	12.2
R-7(1)	15.1	54.4	0	0	33.4
SR-7(2)	14.9	33.6	39 6	0	12.4
SR-7(3)	2.0	4.0	90.0	0	3.0
	32.0	92.0	126.6	0	48.8
R-7 X	10.7	30.7	42.2	0	16.3
SR-8(1)	23.4	58.6	11.4	0	5.7
SR-8(2)	23.0	73.9	3.0	0	0
SR-8(3)	39.5	50.7	2.8	0	7.0
	86.8	183.2	17.2	0	12.7
SR-8X	28.9	61.1	5.7	0	4.2

Benthic Organisms - Natural Substrates - Fall 77

Station and sample	Percentage of organisms collected by Beck's Biotic Class I	II	III	IV	V
CB-2(1)	0	13.5	65.2	0	21.3
CB-2(2)	10.5	36.4	23.4	0	29.6
CB-2(3)	0	44	38.6	0	17.7
	10.5	93.9	127.2	0	68.6
CB-2X	3.5	31.3	42.4	0	22.9
CB-3(1)	13.5	13.5	65.5	0	7.3
	1.6	8.1	86.8	0	3.2
	6.4	19.4	61.2	0	12.8
CB-3(4)	65.3	9.2	17.3	0	8
	86.8	50.2	230.8	0	31.3
CB-3X	21.7	12.6	57.7	0	7.8
RC-2(1)	25.2	24.1	34.9	0	15.6
RC-2(2)	45.4	21.2	24.2	0	9.1
RC-2(3)	14	13.1	66.3	0	6.4
	84.6	58.4	125.4	0	31.1
RC-2X	28.2	19.5	41.8	0	10.4
HC-1(1)	26.9	24.1	32.3	1.1	15.1
HC-1(2)	34.7	31.9	27.8	0	5.3
HC-1(3)	39.4	27	23	1	9.5
	101	83	84.1	2.1	29.9
HC-1X	33.7	27.7	28	0.7	10

Station: SC-3
Replicate: 2

Location: Small tributary downstream from SC-4 20 meters upstream from confluence with Swift Creek. In agricultural area.

Taxon	Number Collected	%	Beck's Biotic Class	Pollution Tolerance Classification
Amphipoda				
Hyalela azteca	6	9.1	II	F
Trichoptera				
Cheumatopsyche sp.	1	1.5	II	F
Diptera				
Bezzia sp.	1	1.5	III	T
Cryptochironomus fulvus	2	3.0	III	T,I
Polypedilum illinaense	33	(5.0)50	II	F,I
Micropsectra sp.	7	10.6	V	F,I
Tribelos sp.	7	10.6	I	I
Polypedilum halterale	6	9.1	I	F,I
Tanytarsus sp.	2	3.0	II	F,I
Mollusca				
Sphaerium sp.	1	1.5	III	

Total Collected: 66
Number of Taxa: 10

Diversity: 2.40
Equitibility: 0.72

	Beck's Biotic Class				
Classification	I	II	III	IV	V
Number of Taxa	2	4	3	--	1
Percent	20.0	40.0	30.0	--	10.0
	19.7	63.6	6.0	0	10.6

Beck's Biotic Index = 8

83.3%

Station: SC-5
Replicate: 2

Location: Small tributary downstream from SC-6. 20 meters upstream from confluence with Swift Creek. Sunlit area in power-line right-of-way.
Date of Collection: November 8, 1977

Taxon	Number Collected	%	Beck's Biotic Class	Pollution Tolerance Classification
Hirudinea				
Helobdella stagnalis	3	1.0	III	T
Placobdella sp.	2	0.7	II	F
Isopods				
Asellus sp.	2	0.7	I	T,F,I
Amphipoda				
Hyalella azteca	11	3.6	II	F
Ephemeroptera				
Stenonema exiguum	1	0.3	I	I
Stenonema smithae	103	33.7	I	I
Baetis sp.	17	5.6	V	
Odonata				
Calopteryx sp.	4	1.3	II	
Enallagma sp.	1	0.3	II	F,I
Trichoptera				
Limnephilus sp.	1	0.3	V	
Chimarra sp.	14	4.6	I	I
Cheumatopsyche sp.	15	4.9	II	F
Diptera				
Simulium sp.	54	17.6	I	I
Tipula sp.	1	0.3	IV	I
Bezzia sp.	4	1.3	V	T
Cryptochironomus fulvus	1	0.3	III	F
Polypedilum illinoense	27	8.8	II	F,I
Tribelos sp.	11	3.6	I	I
Chironomus attenuatus	21	6.9	III	T,I
Conchopelopia sp.	2	0.7	V	F
Chironomus carus	5	1.6	III	T
Rheotanytarsus sp.	3	1.0	II	F,I
Mollusca				
Sphaerium sp.	2	0.7	III	F
Physa sp.	1	0.3	III	T

Total Collected: 306
Number of Taxa: 24

Diversity: 3.28
Equitibility: 0.58

	Beck's Biotic Class				
Classification	I	II	III	IV	V
Number of Taxa	6	7	6	1	4
Percent	25.0	29.2	25.0	4.2	16.7

Beck's Biotic Index = 19

60.5 20.6 10.8 0.3 7.9

81.1

Station No: RO-2 Location: 1.8 miles upstream from confluence with
Replicate: 3 Suwannee River at S.R. 135 bridge.
Shaded area in Southern mixed hardwoods.
Collection Date: November 3, 1977

Taxon	Number Collected	%	Beck's Biotic Index	Pollution Tolerance Classification
Decapoda				
Procambarus sp.	2	0.9	II	T,F,I
Odonata				
Gomphus sp.	1	0.5	II	F
Tetragoneuria sp.	1	0.5	V	
Libellula sp.	1	0.5	V	F
Enallagma sp.	1	0.5	II	F
Trichoptera				
Phylocentropus placidus	4	1.9	V	F,I
Megaloptera				
Sialis sp.	3	1.4	V	
Coleoptera				
Dubiraphia sp.	1	0.5	II	F
Diptera				
Stenochironomus hilaris	2	0.9	I	I
Procladius sp.	2	0.9	II	T,F
Cryptochironomus ponderosus	1	0.5	III	T
Dicrotendipes sp.	144	67.3	II	T,F,I
Chironomus attenuatus	16	7.5	III	T,I
Tanytarsus sp.	8	3.7	I (II)	F,I
Rheotanytarsus sp.	4	1.9	II	F
Tribelos sp.	8	3.7	I	I
Mollusca				
Physa sp.	10	4.7	III	T
Sphaerium transversum	5	2.3	III	

Total Collected 214
Number of Taxa 18

Diversity 2.06
Equitibility 0.31

Classification	I	II	III	IV	V
	Beck's Biotic Class				
Number of Taxa	2	8	4	--	4
Percent	11.1	44.4	22.0	--	22.0

Beck's Biotic Index = 12

4.6 76.2 15.0 0 4.3

80.8%

Station: SC-7
Replicate: 1

Location: At railroad trestle on Occidental property. Channelized portion with hyacinths. Sunlit area.
Date of Collection: November 8, 1977

Taxon	Number Collected	%	Beck's Biotic Class	Pollution Tolerance Classification
Oligochaeta	64	1.77	III	T,F
Hirudinea				
Helobdella stagnalis	1	0.02	III	T
Placobdella sp.	1	0.02	II	F
Odonata				
Agria sp.	1	0.02	II	I
Trichoptera				
Cheumatopsyche sp.	4	0.1	II	F
Polycentropus sp.	2	0.06	I	F,I
Coleoptera				
Dytiscidae sp.	1	0.02	V	T
Diptera				
Bezzia sp.	6	0.7 (0.2)	III	T
Chironomus attenuatus	2873	79.45	III	T,I
Chironomus carus	615	17.00	III	F
Pedinomus beckae	1	0.02	V	
Micropsectra sp.	17	0.47	V	I
Psectrocladius sp.	5	0.14	I	F
Parachironomus sp.	3	0.08	II	I
Labrundinia floridana	2	0.06	I	I
Tanytarsus sp.	15	0.41	II	F,I
Cricotopus bicintus	1	0.02	I	I
Cryptochironomus fulvus	1	0.02	III	T,I
Mollusca				
Ferrissia sp.	3	0.08	III	T,F

Total Collected: 3616
Number of Taxa: 19

Diversity: 0.96
Equitibility: 0.12

	Beck's Biotic Class				
Classification	I	II	III	IV	V
Number of Taxa	5 (4)	4 (5)	7	--	3
Percent	26.4	21.0	36.8	--	15.8

Beck's Biotic Index = 14

$\underbrace{0.28 \quad 1.35}_{1.63\%} \quad 98.54 \quad 0 \quad 0.51$

Discrepancies hurt Oxy, EPA credibility?

2/22/78

By KIM WILSON

As federal bureaucrats sat with folded arms, area environmentalists complained Monday night that allowing further pollution from phosphate strip-mining in Hamilton County will hurt the Suwannee River.

The conglomeration of environmentalists, Occidental Chemical Company management personnel and state and federal researchers gathered in White Springs Monday to offer public comment about a draft impact statement concerning Oxy expansion in Hamilton County.

Oxy, a California-based corporation, produces super phosphoric acid (SPA) from its huge phosphate strip-mining operations, centered in Hamilton County and running near the banks of the Suwannee.

The company is building a new processing plant to handle a multi-billion dollar contract with the Soviet Union, and the expansion has required the company perform an Environmental Impact Statement for the federal Environmental Protection Agency.

MANY OF THE LOCAL CITIZENS AND REPRESENTATIVES from relatively powerful environmental groups, such as the Florida Audobon Society, in attendance Monday also attended a similar meeting last February, when EPA lowered water discharge standards for Oxy.

Oxy has spent several years in federal court battling the more strict standards, and went unregulated in water discharge for several years until a compromise with EPA was reached earlier this year.

While some of the speakers Monday referred to the February meeting, most talked about pollution of Swift Creek, a Suwannee tributary, and the continued pollution effects on the Suwannee.

However, most speakers did say they would approve the latest Oxy expansion, if Oxy pushes itself closer to controlling all pollution of area waters.

Several of the speakers seemed dissatisfied with EPA's last-minute restriction on the time speakers could spend commenting Monday night.

JOHN HAGAN, DIRECTOR OF THE HEARING, put a five

(Turn to OXY, P-2)

Continued Story

Oxy

minute time limit on presentations, which seemed to upset several speakers, particularly Frank Sedemera, member of the Columbia County Environmental Council.

Sedemera had a technically-oriented presentation listing detailed calculations that he said showed discrepancies between water discharge monitoring done by EPA, the state and another federal agency.

But Sedemera said, he could not explain the calculations to the large laymen's audience in five minutes.

Stiff-lipped with anger, Sedemera gave Hagan a written report and left the speaker's stand.

While he was speaking, however, several researchers and phosphate personnel took brief notes, and others unfamiliar with Sedemera kept trying to find out his name.

His presentation was probably the most scientific and caused the most furor.

NEAR THE END OF MONDAY'S HEARING, Charlie Lee, a relatively powerful environmentalist from the state Audobon group, re-emphasized Sedemera's points.

"These calculations have been made available to EPA since February. They show discrepancies in the data produced by Oxy to EPA, DER and the monitoring done by the USGS.

"We are concerned that these discrepancies have not been addressed by EPA," he stated.

"We want a clear answer on why there are differences when the monitoring is done at the same place, at the same time. This hurts your credibility," Lee charged, addressing Hagan and the EPA group sitting at the front of the meeting room.

(DER stands for the state Department of Environmental Regulation, and USGS stands for the U.S. Geological Survey.)

Several persons addressed questions to Hagan and his group, but he refused to respond, saying the final EIS would answer questions.

J. R. WATSON, REPRESENTING THE SUWANNEE River Coalition, said Oxy is already pouring more than 30 tons of pollutants into area waters, and that the new plant proposes to add 2.5 more tons.

"The Oxy argument in favor says 'look what we are doing already. By comparison, this is only five percent more...Six months ago I sat...and saw the federal government relax pollution standards for Oxy.

"This is ever-increasing pollution...Yes, Occidental is meeting the letter of the law, but it is the industry that negotiated what the rules will be," Watson stated.

But he added, his group has gained a plus from the EIS: "These figures have been very hard to come by until this statement came out."

Another representative of Florida Audobon, Archie Carr III, noted the contract with the Soviet Union that predicated the expansion.

HE SAID THE RUSSIAN-OXY DEAL PROPOSES to take a limited natural resource, like phosphate, from the U.S., and that could harm domestic agricultural production in the future.

While Carr criticized Oxy for "intellectual weaknesses," Carr congratulated Oxy and the EIS for including the international trade comments:

"This is the first tacit admission by any phosphate industry that the problem exists at all."

In all, the hearing was calm and orderly, and most speakers did not condemn Oxy's expansion plans.

Occidental plant hit at EPA public hearing

8/23/78

By DICK HAGOOD
Times-Union Staff Writer

WHITE SPRINGS — An environmentalist charged Tuesday that the Occidental Chemical plant has been polluting Swift Creek since 1974 when the phosphate company erroneously reported that it was staying within pollution limits.

"Oxy was not even close to meeting 1974 environmental conditions," said Frank Sedmera of the Columbia County Environmental Society.

The phosphate content in Swift Creek was 200 times more than the other creeks unscathed by Occidental discharges, Sedemera told a public hearing held by the U.S. Environmental Protection Agency.

Sedmera, a Lake City Community College instructor, said tests are being conducted to determine how much the company's discharges are polluting Swift Creek, which runs through Occidental property and empties into the Suwannee River.

A permit to construct a giant chemical complex to manufacture superphosphoric acid for the Soviet Union is at stake.

The EPA, which already has given its blessing in a Environmental Impact Statement (EIS) draft for the project, held a public hearing to evaluate the opinions of the community and environmental groups.

However, an EPA official said he knows of no public hearing which has altered the tentative findings in a EIS draft.

"They're really asking Occidental to do something gratuitous," said John Hagen, chief for the agency's Region IV. He said those complaining at the hearing essentially were arguing that the Suwannee River would be polluted anyway since pollution standards are too weak.

Hagen said the impact statement requires that Occident use the best available treatment of water and air discharges. With a tentative permit approval, Hagen said he believes that Occidental has met those provisions.

Charles Steffens, of the North Central Florida Regional Planning Council, said the EIS draft stated that Occidental will be discharging two tons of pollutants in the river each day in addition to existing discharges.

He also said that the company will be shipping a million tons of phosphate to Poland annually while it is negotiating a phosphate deal with the Russians.

A member of the Sierra Club, historian John Mahon of Gainesville said the Suwannee has a strong symbolic quality that could be destroyed by industrial encroachment.

"I don't think you have any more right to tamper with this symbol," he said, "than you do to take down the United States flag and stomp on it."

Views on local issues

8/25/78

tournament, contributed to making the discovery possible.

Thank you.

Warmest personal regards,

Claude Ste. Marie

Dear Sir:

On Monday, August 21, the Environmental Protection Agency took full responsibility for the content of the Environmental Impact Statement for Occidental Chemical operations and expansion plans. Then the hearing officer ruled that public comments on the document could not exceed 5 minutes. A privately-owned extension cord that had been rigged for the use of persons with projectors was also put to EPA use and no substitute was provided when those persons needed it.

If the intent of these actions was to limit the public's knowledge about problems with the EIS then the tactics worked quite well. Reporters from Gainesville, Lake City and Jacksonville all missed the most significant testimony in the hearing. This had to do with biological stress in Swift Creek.

The EIS acknowledged that Swift Creek has been chemically altered by Occidental to the point where biological stress should be quite severe. But the EIS concludes that biological sampling showed no significant stress. This lack of evidence for stress was taken as justification for complacency with pollution standards and OXY operations. Indicator organisms were sampled and their presence or absence was noted. The organisms were put into one of five classes. Class I organisms are very susceptible to pollutants. Class V organisms are hardly affected by very powerful pollutants.

Mr. Steve Adams, a biologist trained in wildlife ecology, showed that the EIS analysis of the indicator organisms was faulty. EIS analysis could not really distinguish between the unpolluted creeks of the area and Swift Creek. Mr. Adams used a proper analysis technique and showed a very different picture. Unpolluted creeks had mostly Class I and II organisms, few Class IV V organisms. Swift Creek had almost no Class I and II organisms and was dominated by Class III, IV, and V organisms. He was even able to show that one Swift Creek sampling point had been chosen where a tributary stream was actually being sampled rather than the flow of Swift Creek.

Mr. Adam's analysis clearly showed that Swift Creek is quite stressed. EPA cannot now maintain that its pollution standards are sufficient to protect the environment. Neither can it express satisfaction with OXY operations unless it is willing to publicly condone significant pollution. We will soon learn which path EPA will be taking. The future of the Suwannee hangs in the balance.

J. Frank Sedmera

Rt. 1 Box 367

Lake City, Fl.

Dear Sir: 8/24/78

The Environmental Protection Agency held a public hearing about Occidental's new chemical complex and the NPDES permit for discharges to Swift Creek. The hearing was this past Monday night at the Stephen Foster Center. The announced purpose of the hearing was to receive public comment on a draft environmental impact statement and the proposed permit.

In fact, however, only comments of 5 minute's duration, or less, were allowed. This kept those in attendance from hearing comments from people who had spent weeks analyzing the documents and preparing more detailed comments. If there had truly been a problem of time available at the hearing the limitation might have been more acceptable.

This was not the case, however, since all 5 minute comments were completed by 9:15 pm. It is our opinion that the time limit unnecessarily restricted the public's right to a more complete understanding of some very important issues raised in the hearing. In addition, I had installed a power cord to run a projector prior to the beginning of the hearing. When I came forward to speak, that cord was being used by an EPA person, who refused to allow me to use my own cord.

This meant that I had to speak without having a public address system so that I could use the projector. This further restricted the information that I could give to the audience. One other person, also with visual aids and a lengthy statement, had the same problems.

Public hearings such as this are rare. Some people spent weeks developing their comments and making certain that all claims could be documented with firm evidence. The arbitrary and unnecessary rules applied and the interference with some presentations deprived those in attendance of learning much more about a very serious threat to the Suwannee.

On balance, more people are informed about the issues. Yet we cannot help but think about what could have been.

Sincerely yours,
J. Frank Sedmera
Director for Natural Systems
Columbia County Environmental Council

Responses to C-11

1. See Response to T7.

2. Commenter made reference to the fact that there are considerably higher levels of chemical discharge constituents in Swift Creek as compared to Rocky Creek, the latter being considered undisturbed by mining or chemical processing operations. These two creeks were compared by establishing the ratio of chemical constituents at various points in time taking the ratio between Swift Creek and Rocky Creek to indicate impact.

   It is pointed out in the Summary EIS (Section 2.6.4.3) that these values in Swift Creek are materially higher than the surrounding background creeks. However the impact is not as significant as might be indicated by the ratios described above.

   This ratio was established by dividing the concentrations in Swift Creek by the corresponding concentration in Rocky Creek. Due to the very low values (near zero) in Rocky Creek the resulting ratios often assumed high magnitudes.

3. The question of USGS-Occidental test results is addressed in response to T8.

C-12

THE IZAAK WALTON LEAGUE OF AMERICA
INCORPORATED
DEFENDERS OF SOIL, WOODS, WATER, AIR AND WILDLIFE

MANATEE CHAPTER
5314 Bay State Road
Palmetto, Fl 33561
August 26, 1978

Enforcement Division
U.S. Environmental Protection Agency
345 Courtland St. N.E.
Atlanta, Ga. 30308
Attn: Ms. Mona Ellision

Re: Occidental Chemical Co. &
NPDES FL0036266.

Dear Ms. Ellision:

The attached copies of letters(3) and statement(1) address all problem areas identified in this draft EIS.

The members of Manasota-88 and the Manatee Chapter of the IWLA recommend the no-action alternative until such time as the adverse environmental impacts of this proposed installation can be remedied and until such time that this expansion would be in the best interests of the United States. Certainly with existing knowledge, there can be no explanation for permitting a gypsum pond and stack until known and effective methods of mitigating measures are required, ie impervious pond liner etc.

There is no compelling need to permit the installation, described by Tom Gilroy, formerly of McGraw-Hill Green Markets and an editorial in the Sarasota Herald Tribune as not in our best national interests. There appears to be no way the overall energy trade (p.3) could be favorable to the U.S. when we are processing a non-renewable resource by using a rapidly depleting energy source.

It is quite obvious water quality of the Suwannee River and Swift Creek (already high in nutrients, sulfate and fluoride) will be further degraded by this proposed expansion.

The hydrogeologic setting of the area indicates that seepage from the new gypsum stack and pond will have significant impact on groundwater.(See attached statement).

The livestock examined whose teeth were mottled indicated (according to page 42) both that they had fluorosis and that significant concentrations of fluorides already exist in this area.

Carnow's studies (See attached statement) would certainly refute "There is no impact on human health from fluoride emissions from phosphate plants".

AUG 29 1978

New fluoride emissions may be less from the proposed source than the observed effects resulting from existing activities - however, the new source and existing source combined will certainly put out more fluoride than is presently emitted.

The gypsum stack and cooling pond will contaminate the Floridan Aquifer (See attached statement).

Re: p. 180 - There is not a sufficient reserve of known and recoverable phosphate rock within the U.S. to meet U.S. demands for "many decades" to come! (See attached copy of letter to Douglas Costle).

As energy sources become more scarce and costs increase, mining identified "subeconomic resources" will become less and less attractive.

Issuing an NPDES permit for this proposed installation would seem to result in EPA abdicating its responsibility as defined in PL 92-500.

Thank you for your interest.

Sincerely,

Gloria C. Rains

Gloria C. Rains
Chairman, Manasota-88
Sceretary,Manatee Chapter
IWLA.

MANASOTA - 88

A Project for Environmental Quality 1968 - 1988

June 26, 1978

Chairman Douglas M. Costle
Resource Conservation Committee
401 M Street S.W.
Washington, D.C. 20460

Re: Federal policies to encourage
resource conservation and recovery.

Dear Mr. Costle:

Manasota-88 is a bi-county organization dedicated to the preservation of environmental health.

Our members suggest your committee recommend the development of a non-renewable resource policy for the mining of phosphate.

While Florida possesses only 5% of world phosphate reserves, it accounted for approximately 80% of U.S. production and 33% of world production in 1976. (Morocco has 60 billion tons of total world phosphate, Florida less than 7 billion).

According to production data to be found in the U.S. EPA Draft Areawide Environmental Impact Statement, March 1978 (p 1.2), it can be seen that the United States could be a net exporter of phosphate rock through the year 2000, but that the demand would likely exceed the domestic supply before the year 2010, requiring that phosphate rock be imported to satisfy all requirements.

In the next decade, Florida's production will start to decline, In about 32 years, American farmers will need more phosphate than the country can mine. After that, every year this country will become increasingly dependent upon foreign phosphate.

Presently phosphate companies are damaging Florida's environment as they speed up mining to enable them to ship to foreign countries a limited natural resource that will soon be gone. A policy must be developed to enable this vital resource to be managed in a rational manner and in accord with our national interest.
Thank-you for your interest.

Sincerely,

Gloria C. Rains

Gloria C. Rains
Chairman

Reply to:
5314 Bay State Rd.
Palmetto, Fla. 33561

MANASOTA - 88

A Project for Environmental Quality 1968 - 1988

July 5, 1978

Mr. Gene McNeill
Region IV, EPA
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Re: Kaufmann comments re: M-88
Phosphate EIS presentation.

Dear Mr. McNeill:

Our members were pleased to receive comments from Mr. Kaufmann re: our EIS presentation. See attached copy of our report and his comments:

Re: No. 8. Page 2 refers to emissions of polonium-210. See page 14 of Task Force Report on National Radioactivity Contamination Problems, June 1977; page 30, 39 & 40 of Radiochemical Pollution from Phosphate Rock & Milling in addition to EPA ORP/LV-781 cited.

No. 10. See page 29, last paragraph, and page 30, top of page, of Radiochemical Pollution from Phosphate Rock & Milling for documentation. (We also found Geraghty & Miller's Development of a Data Base for Determining the Prevalence of Migration of Hazardous Chemical Substances Into Ground Water at Industrial Land Disposal Sites of interest).

No. 19. Slime pond breaks are still a problem. In the case of our reservoir, it only takes one.

Thank you for your interest.

Sincerely,

Gloria C. Rains

Gloria C. Rains
Chairman

cc. Robert J. Kaufmann
Richard Guimond
Allan Horton

Reply to:
5314 Bay State Rd.
Palmetto, Fla. 33561

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RADIATION PROGRAMS-LAS VEGAS FACILITY
P.O. BOX 15027, LAS VEGAS, NEVADA 89114
(702) 736-2969 • FTS 595-2969

JUN 3 0 1978

Ms. Gloria C. Rains
5314 Bay State Rd.
Palmetto, Florida 33561

Dear Ms. Rains:

Thank you for sending me a copy of the Manasota-88 comments concerning the central Florida phosphate EIS. Because of other commitments, I could not read your comments earlier but I have now gone over them. With respect to the statements I commented on and with which I have some expertise, I agree with most of the points raised. Of course the official EPA position is forthcoming and will be developed by staff in Region IV. The Office of Radiation Programs - Las Vegas Facility will assist in the response to questions and comments relating to hydrology and monitoring.

Rather than reply in detail to the set of comments you forwarded, I simply wrote my reactions in the margins. Jim Bliss has also read your comments and has no serious disagreements. You and the Committee are to be commended for your diligent review.

Sincerely yours,

Robert F Kaufman

Robert F. Kaufmann
Hydrogeologist
Field Studies Branch
Office of Radiation Programs, LVF

Enclosure: Manasota-88 comments on draft PO_4 EIS

cc: (w/enclosure)
Gene McNeill, Region IV
Richard Guimond, HQ/EPA
R. H. Payne, Region IV

Dear Mr. Kaufmann,
Hope time will permit you to read this. I'd be interested in your reaction. Thanks a lot. Gloria Rains

MANASOTA - 88

A Project for Environmental Quality 1968 - 1988

MAY 30 1978

I am Gloria C. Rains of 5314 Bay State Road, Palmetto, Florida, Chairman of Manasota-88.

Manasota-88 is a bi-county organization dedicated to the preservation of environmental health.

The members of Manasota-88 request the following changes and/or additions be added to the final phosphate EIS ~~draft~~ statement.

1. On page 2.3, the statement says there is no proof to date any activity of the phosphate industry causes a radiation impact on the general populace. Your radiation summary says radiation effects would be manifest in cancer statistics, especially lung cancer. No mention is mad of readily available statistics re: cancer on p. 1.52 and 1.53.

We suggest you include the information that Florida has the highest rate of lung cancer in the United States, the statistics weighted so incidences are not attributable to age. (See Selaway's and Davis').

Additionally, statistics readily available from the Department of HRS for last year show that Florida led the nation in deaths from cancer.

It does not seem unreasonable to assume, based on studies by Goffman and others that these lung cancers are related to the high levels of radioactivi in our region.

2. We suggest the assumption, based on admitted monitoring and other informational deficiencies, that radium content in the water of the 7 county area is not due to contamination of ground water by the phosphate industry be deleted because it is unsubstantiated by credible evidence.

3. The statement should recommend both public exposure standards and environmental contamination standards for the phosphate fertilizer industry and associated uranium recovery operations.

Airborne aerosols enriched in uranium and polonium-210 as well as radium-226 in surface waters and both radium-222 and polonium-210 concentrations in biological systems should be given particular attention and standards developed.

4. The statement should recommend that a determination should be made of the correlation, if any, between high ambient radiation and fluoride levels in areas of high incidence of cancer.

5. The statment on p. 1.48 that all radiation exposure is considered harmful, with adverse effects assumed to be proportional to dose and that long-term effects of low radiation doses are not fully known conflicts with the statment on p. 2.86 that background radiation levels may increase

slightly in the immediate vicinity of the uranium-recovery modules but their increase will be insignificant. We suggest the latter be deleted.

for the
time

6. We think it should be noted that existing phosphoric acid plants are capable of producing up to 4,570,000 pounds or almost 20% of the 1975 uranium production and that this operation combined with mining, other processing and redistribution of by-products of phosphate ore creates concentrations and redistribution of radioactive substances and release of radioactive gases and particulates in close proximity to populations [and in concentrations considered hazardous.]

7. The statement implicates radon gas and its daughters as the prime radioactive hazard associated with mining and processing. There is no mention of radioactive particulate alpha activity, proven in recent studies when found in the lungs to give rise to cancer. Ambient air samplings of gross alpha concentrations of wet phosphoric acid plants showed concentrations 15 times background values. Inhalation exposure to high levels of radon and its daughters were singularly ineffective in promoting lung tumors but did give rise to life shortening and other effects (see Marker and Scott). This readily available information should be included in the statement along with the recommendation that more attention needs to be given to the role radioactive particulates, as a by-product of phosphate mining and processing, play in the development of cancer.

EPA

8. The statement should also note that, as found in EPA volume ORP/LV-781 stack sampling of phosphoric acid plants shows appreciable concentrations of the naturally occuring radionuclides are being discharged into the environment and that elevated airborne radioactivity concentrations, with polonium-210 and radium-226, were found in several adjacent plant work areas. Concentrations of polonium-210 during ambient air samplings were approximately 100 times background values. Thorium concentrations at 3.25.

9. Additionally, the statement should strongly recommend studies be done re: the effects of radioactive particulates and other radionuclides when combined with our almost nightly air-inversions.

The very significant area of inversions and their effect on area pollutant levels seems to have been completely omitted from the statement.

10. The statement does not adequately address gypsum stacks and ponds.

this

Samplings of seepage from inactive gypsum piles show that they yield and continue to yield significant quantities of radium to surface streams and ground water for years after the pile is abandoned. Because of the solubility of the gypsum, this problem is analogous to, but more critical than the problem of stabilization of uranium mine tailings.

demonstrated

Quantities of radioactivity entering the environment through gypsum waste contain approximately 80% of the product radium-222 that will enter the environment as a potential polluter. As an example, a relative amount of gypsum contains 460 curies of radium compared to 77 for normal super-phosphate fertilizer.

No other industry in this country is permitted to pile mountains of waste hazardous to human health on the landscape and walk off and leave it to society to control.

[illegible] much comp [illegible] this; phos is not alone

The statement should certainly recommend that the industry be required to stabilize gypsum stacks to prevent further leaching and erosion and to provide other such maintenance encompassing all necessary pollution control measures for the life of the gypsum stacks.

11. The statement suggests impervious linings for gypsum ponds but also suggests clay, although not impervious,be substituted. Clay is not adequate as is documented in Dr. Sam Upchurch's Study (The Distribution and Possible Effects of Sedimentary Contaminants Offshore of Gardinier Inc. in Tampa).

The surface and possible subsurface seepage that would result from the use of clay will not likely, as suggested, be solved by ditching, pumping etc.

We ask the statement recommend only a completely impervious material be permitted.

12. The statement does not adequately address the effects of wet process phosphoric acid plants, located on areas that are underlain by limestone. Acidic gypsum water can react with limestone resulting in the development and enlargement of cracks etc. permitting the movement of contaminated water into the groundwater. Many plants which report a negative water balance on the contaminated water-system are actually discharging radioactive waters to aquifers.

We think the final statement should recommend radiochemical contaminant monitoring of adjacent aquifers and shallow ground water quality.

13. With these facts re: the damaging effects of phosphoric acid plants, we request the final statement recommend a moratorium on the expansion of present or creation of new phosphoric acid plants until such time as methods and standards exist to control the further distribution of radioacti materials into the environment.

14. The subject of control of fluoride emissions and recovery and its economic implications have not been adequately addressed. However, it is acknowledged that through lax regulations and inspection, fluoride levels have been permitted to increase.

While most of us are familiar with the U.S. Department of Agriculture's studies showing fluorides have caused more world-wide damage to domestic animals than any other air pollutant, that fluorides have affected both phosphate workers and nursury operations, new evidence from a study by Dr. Bertram W. Carnow and Dr. Shirley A. Conibear shows the extensive damage caused by exposure to fluorides and strongly indicates fluorosis must be redefined.

The results of this study, conducted at union request, show that a highly significant relationship was found between increasing levels of fluorides and other pulmonary irritants and obstructive pulmonary change.

About 30% of the workers were found to have abnormal reduced forced vital capacity. This comes from decreased elasticity and chronic scarring of the lungs.

More than 10% of the workers were found to have abnormally reduced diffusing capacity - the ability to transfer oxygen and carbon dioxide between the lungs and blood.

The majority of workers had mild abnormalities on their chest x-rays.

The measure of fluoride exposure was displayed in a history of muscular-skeletal symptons.

The striking correlation of muscular-skeletal symptons, bone surgery and bony abnormalities and a high bone risk index suggests that the disease fluorosis is more than dense bone - it is a clinical and pathological entity in which the bone density changes are only one component. The study suggested the disease be called muscular-skeletal fluorosis.

The study also found a high incidence of deaths from lung cancer, lukemia and lymptoma and recommended an immediate program to sharply reduce emissions.

No tests were done of people living in the general area of the plant.

We suggest the damage identified as being caused by fluoride emissions points up the need for the immediate development of standards to reduce the levels of irritant gases and particulates in phosphate plants and surrounding areas. The cost of the latter is insignificant compared to the damage presently being done to the human populace.

15. We recommend the deletion from the draft the statement that increasing numbers of phosphate pits have recreational potential if properly reclaimed. It is questionable until definitive tests re: the uptake of radioactive materials by fish and other marine life are accomplished that these areas can be safely used for fish management or recreational uses.

Additionally, because of partially completed studies (p.1.64) it is very doubtful that reclaimed mine lands can be safely used for agriculture or pasture. We refer to the uptake of radioactive contaminants by the livestock and crops. Hence, if new mining is permitted now, we will experience a substantial decrease in agricultural lands and pastures. It is doubtful for the same reason that it is advisable to permit even single-family dwellings to be developed on reclaimed lands. While the draft mentions this problem, we think the final statement should emphasize that as more tests results are coming in, it may very well be that phosphate mining precludes further use of the land for any purpose, that phosphate mining constitutes a permanent use of the land.

16. Phosphate processing plants are forecast to annually consume 94,490,000 gallons of water per day. Mining less. In your study assessing the effects of this operation on the Floridan Aquifer, you admit that the study assumed that water pumpage by municipalities and agriculture will be at the same level in 1985 and year 2000 as it was in 1975, almost geometrically increasing population forecast for this area. Even under this optimum circumstance, Manatee County faces a drawdown of 10' with increased danger of salt-water intrusion. You further admit that the study results would be considerably different (p.2.49) if your projections for municipal use are incorrect. We suggest this section indicating no severe impact on water quantity be thrown out of the study as being obviously based on fiction

17. We request the same treatment for the statment on p.2.67 that secondary effects on water quality were taken to be potential effects for which there is insufficient evidence for concern.

18. The study speaks of wastewater discharges to be allowed from existing facilities and new facilities (p.2.27) under certain rainfall or equivalent conditions as having to meet best practical technology standards.

What the study fails to mention is that present BACT effluent limitations for the phosphate industry are identical to the best practical technology standards mentioned. We suggest the final statement make this clear.

19. The final statement needs to more adequately address the increased petential for slime pond breaks threatening the water quality of Class I waters and what this would mean to our area if we lose our reservoir. It should also be noted in the same section that elimination of slime ponds is not technically achievable until after year 2000.

20. Wetland restoration (p.2.3) has not been demonstrated and seems highly unlikely on a large scale. Therefore, the preservation of wetlands comprising 12.34% of the land cover in the study area, wetlands we recommend be defined as including areas in which the water table is at near or above the land surface for a significant part of most years and shallow submerged lands and to be expanded to include the definition and identification of wetlands that are developed as a result of studies by the U.S. Interior Department, should be ensured.

Preservation is based on ensuring the source and quality of water necessary to keep these wetlands in a biologically healthy state.

Under present modes of mining operation, this is impossible because of changes in adjacent land terrain, alteration of the local hydrologic regime and changes in the particular constituents of the water.

Therefore, we ask you recommend the no-action alternative of this statement because without this recommendation, it seems highly unlikely that any wetlands will survive in the phsophate mining area with all this portends for the future of our area.

21. The statement does not address the reduced water recharge areas which will result as a loss of these wetlands and what effect this will have on our aquifers.

22. The draft needs to be corrected to reflect the following:

The impacts of supporting activities such as electricity generation and transportation will permit further deterioration of our air quality, will increase thermal pollution, water quality degradation etc. The statment on p2.67 dealing with power plant impact should be changed from minor impact to accurately reflect the above. We find the implication of such a misleading statement from a consultant to a power company in the area to be mined and to realize extensive revenues from mining to be most disturbing.

We find the statement that industry discharge of high concentrations of inorganic nutrients are beneficial and are responsible for the unusally high productivity of both Tampa Bay and Charlotte Harbor an inaccurate statement. It should be corrected to indicate Charlotte Harbor is showing signs of deteriorating water quality as has Tampa Bay for some time.

23. To suggest phosphate mining is needed to support the continued development of Tampa Harbor because it's needed for area industries is a distortion of fact. The ability of private capital to support ports in the state of Florida unfortunately does not seem to be relevant to their existence. This is obviously a blatant special interest statement and should be changed to reflect the fact that a recent nationwide poll distributed by the Florida Department of Commerce shows business executives revealed access to water transportation ranked last in a list of 49 determinants for industrial location and operation.

24. We request your statement recommend the development of a non-renewable resource policy for the mining of phosphate. As stated on p.1.2, the demand by the United States will exceed the domestic supply before2010. It would seem both logical and imperative to have some control over the sequence of mining and the amounts of phosphate permitted for overseas shipment.

The long-term effect of this action on our economy would seem to be slight. As stated in the draft, mining does not appear to have played a significant role in the growth of the region since 1960. The tax revenues realized are small when compared to the costs of the damage the industry creates.

The average real earnings of $7,914 per miner is a relatively low wage and can probably be easily equaled as these workers are readily absorbed by the much healthier to worker environment, the service industries. The latter cited as likely in the draft p.2.60.

25. Suggested as an adequate safeguard in the draft, to depend upon tests to maintain good environmental quality is unrealistic. We have an inadequate number of regulatory personnel right now. That water and air will be tested regularly, connector wells checked beofre abandonment etc. is not likely.

To depend on adequate self-regulation is not realistic either. We refer, as one example, to the Brewster mines, supposingly exercising the latest state of environmental control and when finally checked had violated one regulation after another.

26. Though we understand the constraints of time and money, lack of adequate data in some areas etc., we find that readily available, most important information was ignored and the draft is very poorly organized.

To help offset this, we suggest the final statement incorporate information furnished at these and other public hearings and that the final statement include a section created by combining all the information on each subject in the draft, permitting each subject to be treated separately.

This is what we have done in our draft review and is the only way deficiencies, discrepancies and,most important, the full impact of the industry can be realized.

This form will enable the reader to fully realize the projected destruction of all our wetlands in the mining areas, our forests, our agricultural lands, that the carrying capacity of our area will be further stressed, our water quality and quantity further threatened, our air-quality further deteriorated, our fossil fuel position worsened, our lives threatened and shortened by increases in radioactive levels, threatened and endangered species further stressed - all to permit the rapid depletion by mining of a non-renewable resource.

Based on the latter, we request you recommend in the final statement that the no-action scenario be adopted until the serious environmental problems cited are solved and until a non-renewable resource policy is developed.

Gloria C. Rains
5314 Bay State Road
Palmetto, Fl. 33561

Responses to C-12

1. The question of the advantage of this installation to the United States is raised. These matters are covered in some detail in the EIS Summary (Sections 3.4.3 and 3.4.4) and the corresponding sections of the Resource Document. Also see response to T9.

2. While the chemical loading to Swift Creek and the Suwannee River will be increased, the discharge from the proposed facility will not significantly alter the present chemical composition of these waters. A quantitative summary of predicted increases in some chemicals in Swift Creek and the Suwannee River is presented in Chapter 2.0 of the final EIS (Table II).

3. The accompanying materials submitted refer to data generated in the Central Florida area in contrast to this installation in North Florida. The potential for seepage from the gypsum stack and pond of this North Florida installation was recognized, investigated for an existing stack, and covered in the EIS Summary (Section 3.2.7) and the corresponding section of the Resource Document. This study was specifically designed to address these concerns.

   These studies indicated that for this north Florida site impact on groundwater will be limited in depth to the surficial aquifer and horizontally to a distance of less than 1000 feet from the stack. In addition the proposed pond will be operated so that seepage will be minimized. No evidence in any of the data collected indicated impact on the Floridan aquifer.

Responses to C-12 continued

4. The mottling noted in cattle teeth was "slight", i.e., slight staining but no increase in normal rate of wear. Neither this effect nor any of the other findings reported in Section 2.2.2.3.2 of the Summary EIS indicate that there are significant concentrations in the area.

5. EPA maintains the position that fluoride is a welfare related pollutant (See Summary EIS Section 3.1.4). This is to say it is known to affect only materials, vegetation and animals; not human health. In August 1978 the EPA Health Effects Research Laboratory stated that all reports that could stand up to scientific criticism support the position that fluoride is not a health related pollutant.

6. This comment is true and is reflected in Section 3.1.4 of the Summary EIS.

7. This question is addressed in #3 above.

8. The phosphate reserve situation is discussed in Section 3.4.4.2 of the Summary EIS and the corresponding section of the Resource Document, based on US Bureau of Mine Estimates, 1977.

Richard W. Bowles

C-13

827 N.W. 15th Avenue
Gainesville, Florida 32601

Aug. 25,1978

Mr. Paul Traina, Director
U. S. Environmental Protection Agency
345 Courtland Street N. E.
Atlanta, GA, 30308

Dear Mr. Traina:

As I participated in the EPA hearing in White Springs, Florida, on August 21, 1978, for Occidental Chemical's permit to pollute the Suwannee River, I could not help but compare it with the scene several years ago when my up-the-canal neighbor at Suwannee, Henry Mathis, was required by a DER official to dig up and relocate his septic tank because its drain field ended 46 feet from the canal instead of the required 50.

The DER man, a conscientious individual named Hollingsworth, had a long and stiff steel rod that he carried like a badge, entering people's yards and probing busily, reminding one of a long-beaked robin, as he ferreted out the locations of septic tanks and drain fields. I was really impressed. "This is great," I thought; "The authorities are not going to stand for any pollution of the Suwannee River."

Now contrast this with the hearing last Monday, where EPA presented a 217-page document stating that daily discharge into the Suwannee of some two tons of phosphorus, fluoride, ammonia, and radium really won't hurt anything. (Nobody really knows, of course, exactly how much will be discharged, since the EPA sets no limit; the two ton figure is a reasonable estimate from the 12 MGD effluent limitation added by the state DER.)

Can this be the agency set up by Act of Congress to protect the environment? A fundamental principle of American society is that every citizen is entitled to equal protection under the law. My neighbor was required to clean up his own sewage at his own expense. What's so special about OXY or any other company that exempts them from responsibility for their own mess?

Mr. John Hagan, EPA's presiding officer at the meeting, tried to introduce "...any elected public officials" at the hearing, but none were present. None. Maybe that's the answer.

Respectfully,

Richard W. Bowles

cc - Honorable Don Fuqua
Honorable Lawton Chiles

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ENFORCEMENT
DIVISION

AUG 30 1978

Home Phone: 904/372-0307
Office Phone: 904/392-6675
C.B.: KUS 8759

Cottage: THE HIGH DOUBT
196 Peninsula Drive
Suwannee, Florida, 32692
Boat: "T-Bone's Stake"

C-14

HAMILTON COUNTY COMMISSIONERS

JOEL C. SELPH DISTRICT 1 JENNINGS
W. R. (BILL) SCAFF DISTRICT 2 JASPER
JACK VINSON DISTRICT 3 JASPER
L. A. EDENFIELD DISTRICT 4 WHITE SPRINGS
DAVID GOOLSBY DISTRICT 5 JASPER

ALICE JONES
CLERK CIRCUIT COURT
HAMILTON COUNTY
JASPER, FLORIDA 32052

COMPREHENSIVE PLANNING BOARD

August 28, 1978

Mr. John E. Hagan, III
Chief, E. I. S. Branch
Environmental Protection Agency Region IV
345 Courtland St. N. E.
Atlanta, GA 30308

Dear Mr. Hagan:

We, the undersigned members of the Hamilton County Planning Board, would like to be on record that we support the issuance of the Permit NPDES #Fl0036226 to the Occidental Chemical Company.

We feel that Occidental Chemical Company has met its responsibilities as a company and as a good citizen of our county. They obviously have met all the standards set down by E. P. A. and should not be delayed any further.

We feel that Occidental Chemical Company will do what is necessary to protect our environment now and in the future.

Your utmost consideration would be appreciated.

Respectfully submitted,

Victor E. Harrell
Victor E. Harrell, Chairman

Robert Ehlert
Robert Ehlert

Kenneth Daniels
Kenneth Daniels

George Roberson
George Roberson

Virgie H. Cone
Virgie H. Cone

Mary Runyon
Mary Runyon

cc: Hamilton County Commissioners
George Webb
Occidental Chemical Co.

C-15

S. D. SUMMERS
President
ROBERT L. GREEN
Executive Vice President
G. A. BUIE, JR.
Vice President
W. C. McGHIN
Vice President

L. THOMAS WITT
Cashier
BESSIE T. POPE
Assistant Cashier
ALAN L. BERGMANN
Assistant Cashier

CBC

Columbia County Bank
P. O. Box 1609
Lake City, Florida 32055

August 28, 1978

Mr. John E. Hagan III
Chief, EIS Branch
Environmental Protection Agency
345 Courtland St., N. E.
Atlanta, Ga. 30308

Dear Sir,

I read with interest the articles about the Public Hearing at White Springs last week concerning Occidental's proposed chemical plant.

May I offer a comment as a resident and businessman of a neighboring community?

I have known employees and management personnel from Occidental and I have followed their actions and have found them to be reputable and responsible. I concur with your findings and urge you to proceed as quickly as possible with the appropriate permits without fear of adverse environmental impact.

We need the employment and economic growthwhich the expansion of Occidental will provide. Any slow down at occidental adversly effects the North Fl and South Ga. area as we need all the jobs that they provide.

Sincerely,

Robert L. Green
Exsecutive Vice-President

EPA-REGION IV
E I S BRANCH
ATLANTA, GA.

AUG 30 1978

C-16

E. A. ROSE, Manager
President

NORTH FLORIDA CONCRETE
INC.
BUILDING SUPPLIES — "Foundation To Rooftop"
NORTH MARION STREET ◆ P. O. BOX 1388
LAKE CITY FLORIDA 32055
PHONE (904) 752-8161

W. J. WHEELER, Ass't Manager
Secretary - Treasurer

August 28, 1978

John E. Hagan III
Chief, EIS Branch
Environmental Protection Agency
Region IV
345 Courtland Street, NE
Atlanta, Georgia 30308

Dear Sir:

I am a member of the Suwannee River Authority and have been for the past six years. My comments are not intended to represent the Authority, but rather a resident of Columbia County and a businessman.

I attended the public hearing in White Springs on August 21, 1978, and listened to comments ranging from very constructive to rediculous. I was reared in Columbia County and feel that the Suwannee River is one of our greatest assets. I do not want to see anything destroy our river and will exhaust all efforts to preserve it.

However, the Suwannee River Authority initiated a water quality monitoring program approximately ten years ago. The purpose of this program was to assure the protection of the river water beyond the controls required by the State and Federal agencies. The SRA receives bi-monthly reports transmitting complete field and laboratory analysis from nine sampling locations in the Suwannee River basin. The last report, as well as all previous reports, states that "the data collected during the April-1977 sampling period indicates no significant change since the monitoring program began in the quality of water in the Suwannee River basin". Considering the State and Federal regulations governing Occidental's discharge of waste water into the river and the results of the SRA monitoring program, I must conclude that Occidental has in no way harmed our river. My personal experience wiht the management of Occidental reflects a great desire to operate within all agency regulations and prohibit any possible harm to the river.

I should also point out that Occidental has had a tremendous impact on the economy of our area and the planned expansion will have an even greater impact which we seriously need. The company is a large supporter of all community activities and has been very generous with their donations.

In conclusion, I personally support issuing the EPA permit for the planned expansion to Occidental. The facts clearly show that the benefits derived from the Occidental expansion will far exceed the little effect it may have on the environment.

Sincerely yours,

W. J. Wheeler

W. J. Wheeler

WJW/dj

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ATLANTA, GA.

AUG 30 1978

C-17

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Field Office, P. O. Box 1329, Jasper, Florida 32052

August 29, 1978

Mr. John E. Hagan, III
Chief, EIS Branch
Environmental Protection Agency
Region IV
345 Courtland Street, NE
Atlanta, Georgia 30308

Dear Mr. Hagan:

The following are comments on the draft EIS for Occidental Chemical Company, Swift Creek Chemical Complex:

(1) Research should be intensified so that all feasible phosphate would be extracted from the "slimes." It seems that the "slimes" and "tailings" should be mixed together before being pumped back into the pits--with the overburden placed on top of this mixture.

(2) More research should be welcomed from Occidental and the DER in regards to plant materials available for evaluation in respect to erosion control and build up of organic matter in reclamation processes.

Sincerely,

A. Callaway Lee/ml

A. Callaway Lee
District Conservationist

ACL/ml

cc: John E. McAlister

AUG 31 1978

C-18

Steve Adams
27 Highlands Court
Lake City, Florida 32055

August 29, 1978

Mr. John E. Hagan
Chief, EIS Branch
Environmental Protection Agency, Region IV
345 Courtland Street
Atlanta, Georgia 30308

Dear Mr. Hagan:

I came prepared to speak for something over twenty minutes at the hearing August 21, 1978, and was not prepared to summarize everything down to just five minutes. Neither had I made preparations to include a written statement at the time since I had several demonstrations to do such as a working stream model as well as several others, and these don't lend themselves to other than oral presentation very well.

1 I is my opinion that the biological indicators of water quality should be divided up into weighted groups as the Beck's Biotic Classes does do. However I am also of the opinion that such data should be viewed in terms of the numbers of individuals in each group rather than by the number of taxa in each group. To look only at the number of taxa in each group may lead you to believe something that may not be supported by the same data when viewed in terms of the number of individuals per class. I will try to illustrate my point and in doing so I will also try to cut through as much of the biological jargon as I can and use language that the average person can understand.

The figure that I have called figure 1 in the appendix shows the five classes the organisms are divided into. Class I is those organisms that are intolerant, class II is slightly tolerant, class III is moderately tolerant, class IV is tolerant, and class V very tolerant. These terms may not exactly agree with the original descriptions but as stated earlier I want to cut down on technical terms and state the case in a way that the average person can understand.

When you only consider the number of taxa in each class and arrive at an index number you may come up with conclusions that closer examination doesn't support. As an example please observe the material I have labeled figure 2. Using only the information of Beck's Biotic Index, you are likely to think that the sample point with the higher index is in a stream that has no effluent dumped into it. Even when the data is viewed by percentage of taxa in each group you may be of the opinion that since the figures for each place aren't too far off from each other that the one receiving effluents isn't really different enough to say which one it is.

When the analysis is done on the basis of the number of individuals in each group then the stream receiving effluent is instantly spotted by virtue of 80.8% of the organisms being in classes I & II in one sample and only 1.63% being in classes I & II in the other sample.

As a second example please look at the material I have labeled as figure 3. Both of these samples have the same index of 9. Looking at the data as percentage of taxa per class there still doesn't seem to be enough difference to sneeze at. If at this point you were told that one of these samples is in a stream that receives effluent only occasionally then you may not be able to pick it out. However if the analysis is done on the basis of the number of individuals per class then you can immediately tell which stream is which.

As yet another example of how the method works please look at the material I have labeled figure 4. If you look at the station averages for SC-9.5 and SC-9 there doesn't seem to be too much difference between these points. Now look at the sample point labeled ABC-8. With this sudden difference one should expect that there is something going on that you could see when looking at the stream. I would have expected it to look something like the situation shown in the slide I have labeled slide 1. (This is not a slide of any of Occidental's operations. I am merely using it as an example of what I would have expected to see.) The difference is actually more dramatic as you can see in slide 2 where Altman's Bay Canal enters Swift Creek.

Using this technique of analysis by number of individuals per class and looking at the average of each station on Swift Creek for natural substrates for the fall of 1977 (see figure 4) one can predict that there is something dramatically different about sample points SC-3, SC-4a, SC-4b, and SC-5 without any description of the sites these samples are from. When you look at the sampling map you see what the diffreence is. SC-3 and SC-5 are sample points that aren't in Swift Creek proper but are tributaries not receiving effluent.
2 Actual visitation of the sample points revealed they were spring fed streams. Common sense would seem to predict that if a sample point were near a place where the effluent was being diluted by such a spring fed stream, which in addition to dilution serves as a source from which organisms may be washed out, that we should see a sudden local improvement. In other words our model predicts what would happen at SC-4a and SC-4b and it does happen. (By the way, the use of sample station SC-4b amounts to sampling the same location twice, and this is a location we expect to be better than many of those above it.)

The idea of dividing data up into classes and doing an analysis of the data by the number of individuals in each group is nothing new or unique. Businesses have been doing it for a long time. As an example when you purchase an appliance such as a vacuum cleaner or an electric mixer there is often a card enclosed in the package with some questions on it. The company would like to know several things besides just your name and address such as, how old you are, what income group you are in, what size town you live in and so on. Analysis of this information by the number of individuals in each group lets the company know if their advertising is reaching the target group of if they should be trying to tailor their advertising efforts to another target group. Countless other examples of analysis by the number of individuals in a group exists. Even the average citizen is accustom to receiving information by the number of individuals in a group as shown by the newspaper clipping I have labeled as figure 5.

Ordinary logic would seem to indicate that when the bulk of organisms are in the intolerant to slightly tolerant groups that you have a pretty good situation, and when the bulk of the organisms are in the moderately tolerant group that something is going on. By the same token if the bulk of organisms were in the tolerant to very tolerant groups then plain old "horse sense" would tell the average citizen that this is definately a bad indication. The 70%-60%-70% figures I make use of in figure 1 are arbitrary ones but I feel that they represent the bulk of organisms being in a group. The reason for using the 60% figure rather than a 70% one is that we should be trying to spot a situation early on before it goes too far afield. Although the percentages are arbitrary they are based on field work done in a limnology course done under Dr. Dendy at Auburn University (the same Dr. Dendy whose name is associated with the Hester-Dendy samplers used in the EIS study), and several years of experience using local waters to demonstrate biological principles to students. Using the model of analysis by the number of individuals in a group, I am lead to a very different conclusion from the one in the EIS that Swift Creek isn't stressed.

Even if we use no assignment of percentages as I have used in figure 1 and define stress as being evident when there is a considerable difference between the stream receiving effluents and those not receiving any, then the model still works. Even by that criterion Swift Creek still shows up as being stressed.

The same thing can be done for other organisms besides the macroinvertebrates listed as benthic organisms in the EIS. For example it could have been done for the algae samples but wasn't as you can see by a comparison of figures 2 & 3 and material I have labeled as figure 6. The basic idea of dividing the algae up into weighted groups is nothing new and a rough outline is presented in Public Health Service Publication No. 657 by the Public Health Service, U. S. Department of Health, Education, and Welfare. Considerable refinement in the technique can probably be found in the literature published since then.

I believe that the same can be done for the fish found in the Suwannee River drainage system but wasn't as you can see by a comparison of figures 2 & 3 with material I have labeled as figure 7. Even if the fish weren't divided up into weighted groups as the macroinvertebrates were I could have gotten a lot more information about Swift Creek if the fish had been listed by sample station, what species they were, how many of each species, and how much each fish weighed but that wasn't done either. The idea of using fish as indicator organisms is not new and is pretty well established. As an example I include an advertisement showing fish being used as such which I have labeled figure 8. I am also including a clipping from the Auburn Alumnews concerning the Department of Fisheries and Allied Aquaculture of which Dr. Wayne Shell is the head. I suggest that you get in contact with him concerning the division of the fish in the Suwannee River drainage system into classes. (The clipping is labeled as figure 9.) I feel sure that he or some members of his department would be able to assist you.

Although I don't agree that Swift Creek isn't stressed, I don't think that the additional effluents are going to cause it to go belly up but they sure aren't going to help any. If enough such materials keep going into the Suwannee River from whatever the source then it is finally going to reach a point at which we are going to see undesirable results if we aren't already. I include for your inspection material that I have labeled as figure 10. This material shows a downward trend in fish catches since Occidental's start up of
3 operations. This may be merely a coincidence with a pulse cycle of the Suwannee River but on the other hand it may be an ominous warning flag. Without further data I can't say which and until we do know for sure I think we should go slow and tread lightly. Let's not imagine that what happened to the Perdido River and Escambia River and their associated estuaries in west Florida after industrial effluents were added to them can't happen to the Suwannee River, because it can.

As I stated at the hearing I do think Occidental is being unduely restricted in the pH standards for their effluent discharge. The head waters of the Suwannee River are in a national wildlife refuge protected from development and the river is undeveloped to well below their outfall. Hence we can determine what the background is in
4 terms of pH. I believe that +1 above background to 9 would be a more realistic standard based on the acidity of the receiving waters. (I realize that this may not be an advisable standard for the industry as a whole because in the central Florida area the receiving waters have been so intensely developed that it may be impossible to determine what background is. In such a situation an arbitrary standard like 5 to 9 may be necessary.) I believe that the pH can be taken at the USGS station near Benton and at the USGS station at White Springs on the same day and their average taken over a several year period could establish the background for setting the standard.

I would like to thank you for holding a public hearing on this EIS and having it at a time and place convenient for most of the people to attend. I think you can see by the attendence of the hearing that a great many people are interested in such matters in this area. I would like to offer a suggestion for any future such meeting. If you must place a time limit on speakers so that everyone has a chance to be heard before the evening wears on, then let everyone have his five minutes. Then have a break and after the break let those who wish to expand on their five minutes have the chance to do so. There were several speakers who had spend weeks reading this EIS and developing the things they wanted to say. Many had things to say that both the EPA and the DER should have heard before any final statement is formulated and much of this can't be explained in a letter nearly as well as by oral statement.

In closing let me state that even though this letter extends over five pages there are several other points about biological material in the EIS that I haven't even touched on and don't have the time to do so in this letter. I am willing to discuss these areas with you at your convenience to any depth you desire if you will give me a call. If there is any way I can be of assistance to you on this EIS or on any future matter please feel free to call on me.

Sincerely yours,

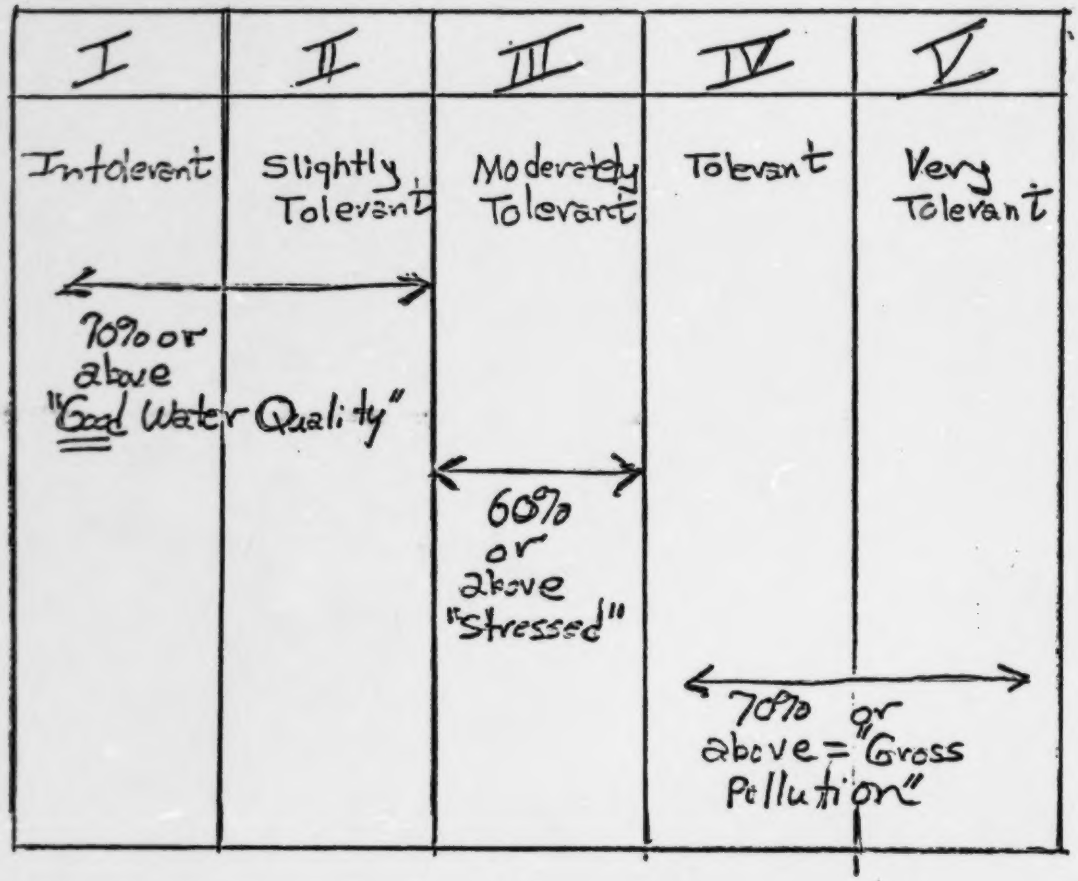
Steve Adams

Steve Adams

Appendix

Figure 1

Beck's Biotic Class



I	II	III	IV	V
Intolerant	Slightly Tolerant	Moderately Tolerant	Tolerant	Very Tolerant
70% or above "Good Water Quality"				
		60% or above "Stressed"		
			70% or above = "Gross Pollution"	

Appendix Figure 2a

Station: SC-7
Replicate: 1

Location: At railroad trestle on Occidental property. Channelized portion with hyacinths. Sunlit area.
Date of Collection: November 8, 1977

Taxon	Number Collected	%	Beck's Biotic Class	Pollution Tolerance Classification
Oligochaeta	64	1.77	III	T,F
Hirudinea				
Helobdella stagnalis	1	0.02	III	T
Placobdella sp.	1	0.02	II	F
Odonata				
Agria sp.	1	0.02	II	I
Trichoptera				
Cheumatopsyche sp.	4	0.1	II	F
Polycentropus sp.	2	0.06	I	F,I
Coleoptera				
Dytiscidae sp.	1	0.02	V	T
Diptera				
Bezzia sp.	6	0.7 (0.2)	III	T
Chironomus attenuatus	2873	79.45	III	T,I
Chironomus carus	615	17.00	III	F
Pedinomus beckae	1	0.02	V	
Micropsectra sp.	17	0.47	V	I
Psectrocladius sp.	5	0.14	I	F
Parachironomus sp.	3	0.08	II	I
Labrundinia floridana	2	0.06	I	I
Tanytarsus sp.	15	0.41	II	F,I
Cricotopus bicintus	1	0.02	I	I
Cryptochironomus fulvus	1	0.02	III	T,I
Mollusca				
Ferrissia sp.	3	0.08	III	T,F

Total Collected: 3616
Number of Taxa: 19

Diversity: 0.96
Equitibility: 0.12

Beck's Biotic Class

Classification	I	II	III	IV	V
Number of Taxa	5 (4)	4 (5)	7	--	3
Percent	26.4	21.0	36.8	--	15.8

Beck's Biotic Index = 14

0.28 1.35 98.54 0 0.51

1.63%

Appendix Figure 2b

Station No: RO-2
Replicate: 3

Location: 1.8 miles upstream from confluence with
Suwannee River at S.R. 135 bridge.
Shaded area in Southern mixed hardwoods.
Collection Date: November 3, 1977

Taxon	Number Collected	%	Beck's Biotic Index	Pollution Tolerance Classification
Decapoda				
Procambarus sp.	2	0.9	II	T,F,I
Odonata				
Gomphus sp.	1	0.5	II	F
Tetragoneuria sp.	1	0.5	V	
Libellula sp.	1	0.5	V	F
Enallagma sp.	1	0.5	II	F
Trichoptera				
Phylocentropus placidus	4	1.9	V	F,I
Megaloptera				
Sialis sp.	3	1.4	V	
Coleoptera				
Dubiraphia sp.	1	0.5	II	F
Diptera				
Stenochironomus hilaris	2	0.9	I	I
Procladius sp.	2	0.9	II	T,F
Cryptochironomus ponderosus	1	0.5	III	T
Dicrotendipes sp.	144	67.3	II	T,F,I
Chironomus attenuatus	16	7.5	III	T,I
Tanytarsus sp.	8	3.7	I (II)	F,I
Rheotanytarsus sp.	4	1.9	II	F
Tribelos sp.	8	3.7	I	I
Mollusca				
Physa sp.	10	4.7	III	T
Sphaerium transversum	5	2.3	III	

Total Collected 214
Number of Taxa 18

Diversity 2.06
Equitibility 0.31

	Beck's Biotic Class				
Classification	I	II	III	IV	V
Number of Taxa	2	8	4	--	4
Percent	11.1	44.4	22.0	--	22.0

Beck's Biotic Index = 12

4.6 76.2 15.0 0 4.3

80.8%

Appendix Figure 3a

Station: SC-9
Replicate: 1

Location: At bridge on Occidental property, channelized, shaded by brush.
Date of Collection: November 8, 1977

Taxon	Number Collected	%	Beck's Biotic Class	Pollution Tolerance Classification
Oligochaeta	40	11.1	III	T,F
Hirudinea				
Helobdella stagnalis	1	0.3	III	T
Ephemeroptera				
Caenis diminuta	10	2.8	III	T
Stenonema smithae	2	0.5	I	I
Odonata				
Pachydiplax longipennis	1	0.3	II	
Trichoptera				
Phylocentropus placidus	2	0.5	V	F,I
Hydroptila sp.	1	0.3	I	I
Cyrnellus sp.	1	0.3	V	F
Leptocella sp.	2	0.5	II	F,I
Coleoptera				
Dubiraphia sp.	6	1.7	II	F
Diptera				
Tipulidae sp.	1	0.3	IV	T,F
Bezzia sp.	228	63.2	III	T
Polypedilum illinoense	24	6.6	II	F,I
Cryptochironomus fulvus	8	2.2	III	T,I
Glyptotendipes sp.	12	3.3	III	T
Chironomus carus	4	1.1	III	T
Cryptochironomus	1	0.3	III	T
Clinotanypus pinguis	16	4.4	II	F
Mollusca				
Sphaerium sp.	1	0.3	III	

Total Collected:	361		Diversity:	2.12
Number of Taxa:	19		Equitibility	0.30

	Beck's Biotic Class				
Classification	I	II	III	IV	V
Number of Taxa	2	5	9	1	2
Percent	10.5	26.3	47.4	5.3	10.5
	0.8	13.5	84.6	0.3	0.8

Beck's Biotic Index = 9

14.3%

Appendix Figure 3b

Station No: HC-1
Replicate: 1

Location: At bridge on S.R. 135. Shaded area in Southern mixed hardwoods.
Collection Date: November 3, 1977

Taxon	Number Collected	%	Beck's Biotic Index	Pollution Tolerance Classification
Oligochaeta	5	5.4	III	T,F
Ephemeroptera				
Baetis sp.	1	1.1	V	
Odonata				
Progomphus obscurus	1	1.1	I	I
Gomphus sp.	1	1.1	II	F
Coleoptera				
Stenelmis sp.	7	7.5	II	T,F,I
Diptera				
Tipulidae sp.	1	1.1	IV	T,F
Bezzia sp.	17	18.3	III	T
Cryptochironomus ponderosus	3	3.2	III	T
Micropsecta sp.	12	12.9	V	F,I
Conchopelopia sp.	1	1.1	V	F
Cladotanytarsus sp.	3	3.2	II	F
Polypedilum halterale	24	25.8	I	F,I
Tanytarsus sp.	10	10.8	II	F,I
Rheotanytarsus sp.	2	2.1	II	F
Chironomus attenuatus	4	4.3	III	T,I
Mollusca				
Physa sp.	1	1.1	III	T

Total Collected 93
Number of Taxa 16

Diversity 3.24
Equitibility 0.84

	Beck's Biotic Class				
Classification	I	II	III	IV	V
Number of Taxa	2	5	5	1	3
Percent	12.5	31.2	31.2	6.2	18.8
	26.9	24.1	32.3	1.1	15.1

Beck's Biotic Index = 9

51.0%

Appendix Figure 4

Benthic Organisms - Natural substrates - Fall 77

Swift Creek Average including stations
SC-3, SC-4b, SC-5.

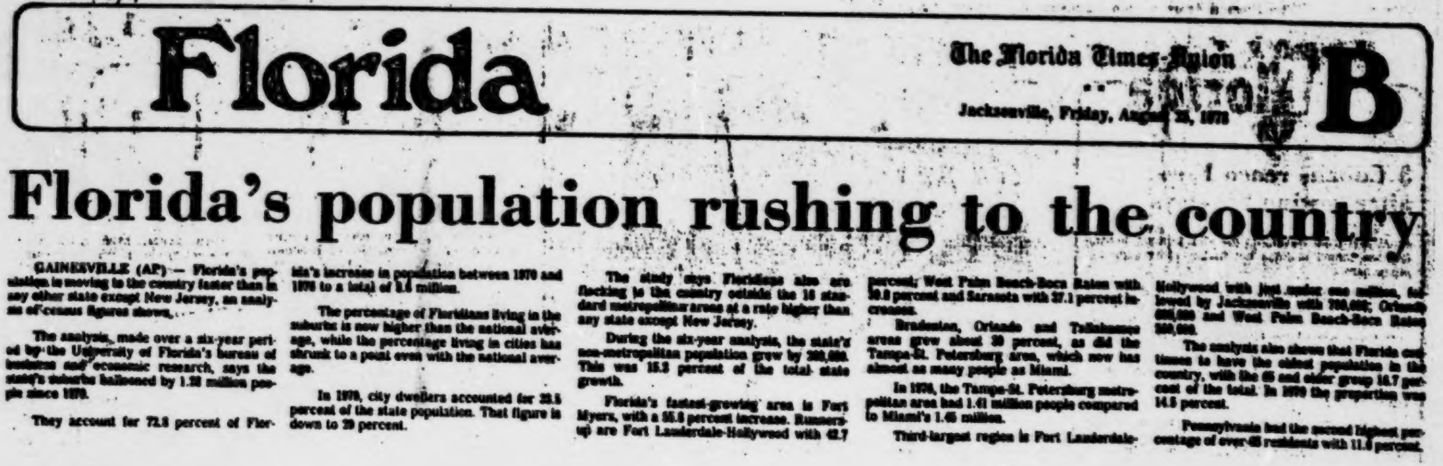
tion erage	Percentage of organisms collected by Beck's Biotic Class I	II	III	IV	
C-1	20.0	10.2	56.5	0	13.5
C-2	2.3	1.6	95.6	0	0.5
-3	21.6	49.8	14.7	1.1	10.3
- 4a	35.0	46.2	9.5	0	9.1
C-4b	43.8	30.7	20.0	0	5.3
-5	59.9	26.7	7.4	0.2	6.0
C-6	6.1	22.7	62.7	0	4.2
C-7	1.5	0.9	97.5	0	0.4
C-8	0.3	0.3	99.9	0	0
C-9	3.0	16.1	74.8	0.1	6.0
C-9.5	3.3	19.6	68.2	0	10.7
	196.8 ÷11	224.8 ÷11	606.8 ÷11	1.4 ÷11	66.0 ÷11
	17.9	20.4	55.2	0.1	6.0

Swift Creek Average excluding stations
SC-3, SC-4b, SC.5

Percentage of organisms collected by Beck's Biotic Class

I	II	III	IV	V
73.5 ÷8	117.6 ÷8	564.4 ÷8	.1 ÷8	44.4 ÷8
9.2	**14.7**	**70.6**	**0.01**	**5.6**

Appendix Figure 5



Florida

The Florida Times-Union

Jacksonville, Friday, August 25, 1978

B

Florida's population rushing to the country

GAINESVILLE (AP) — Florida's population is moving to the country faster than in any other state except New Jersey, an analysis of census figures shows.

The analysis, made over a six-year period by the University of Florida's bureau of business and economic research, says the state's suburbs ballooned by 1.38 million people since 1970.

They account for 72.8 percent of Florida's increase in population between 1970 and 1976 to a total of 8.4 million.

The percentage of Floridians living in the suburbs is now higher than the national average, while the percentage living in cities has shrunk to a point even with the national average.

In 1970, city dwellers accounted for 33.5 percent of the state population. That figure is down to 29 percent.

The study says Floridians also are flocking to the country outside the 16 standard metropolitan areas at a rate higher than any state except New Jersey.

During the six-year analysis, the state's non-metropolitan population grew by 288,000. This was 15.2 percent of the total state growth.

Florida's fastest-growing area is Fort Myers, with a 55.8 percent increase. Runners-up are Fort Lauderdale-Hollywood with 42.7 percent; West Palm Beach-Boca Raton with 39.8 percent and Sarasota with 37.1 percent increases.

Bradenton, Orlando and Tallahassee areas grew about 30 percent, as did the Tampa-St. Petersburg area, which now has almost as many people as Miami.

In 1976, the Tampa-St. Petersburg metropolitan area had 1.41 million people compared to Miami's 1.45 million.

Third-largest region is Fort Lauderdale-Hollywood with just under one million, followed by Jacksonville with 710,000; Orlando 609,000 and West Palm Beach-Boca Raton 500,000.

The analysis also shows that Florida continues to have the oldest population in the country, with the 65 and older group 16.7 percent of the total. In 1970 the proportion was 14.5 percent.

Pennsylvania had the second highest percentage of over-65 residents with 11.6 percent.

Appendix Figure 6

Station: ABC-8 Location: Culvert at SR 137. Channelized portion. Sunlit area.
Date of Collection: November 16, 1977

Taxon	Cells/mm^2
Chlorophyta	
Ankistrodesmus convolutus	3.46
Cosmarium sp.	0.76
Cncigenia tetrapedia	13.82
Rhizoclonium sp.	0.22
Scenedesmus dimorphus	0.65
Scenedesmus obliquus	6.26
Scenedesmus quadricauda	8.21
Chrysophyta	
Achnanthes lanceolata v. *dubia*	0.11
Cyclotella meneghiniana	0.65
Cyclotella stelligera	0.65
Eunotia major	0.22
Gomphonema sp.	1.94
Navicula lanceolata	3.13
Nitzschia palea	0.54
Pinnularia subcapitata	0.11
Synedra ulna	0.22
Cyanophyta	
Oscillatoria sp.	31.75
Euglenophyta	
Phacus sp.	0.22

Number of Taxa: 18
Diversity: 2.61
Equitibility: 0.49

Appendix Figure 7a

Table 2.7-15 (Continued)

Scientific Name/Common Name	Swift Creek	Control	Typical Habitat
Fundulus notti lineolatus Lined topminnow		X	Small to medium-sized, flowing streams, with or without vegetation.
Leptolucania ommata Pygmy killifish		X	Heavily vegetated sloughs to large streams or lakes, but almost always with vegetation.
Gambusia affinis holbrooki Mosquitofish	X	X	Ubiquitous; in all types of habitats, but if in large open streams are in quiet water along shore.
Heterandria formosa Least killifish	X	X	May occur in heavily vegetated sloughs or in small to large streams or lakes, but always with vegetation.
Labidesthes sicculus vanhyningi Brook silverside	X		Medium-sized to large streams, generally in open flowing water away from vegetation.
Centrarchus macropterus Flier	X		Heavily vegetated sloughs to medium-sized streams, almost always with some vegetation.
Elassoma evergladei Everlades pgymy sunfish		X	Heavily vegetated sloughs.
Enneacanthus gloriosus Bluespotted sunfish		X	Heavily vegetated sloughs.
Enneacanthus obesus Banded sunfish		X	Heavily vegetated sloughs.
Lepomis auritus Redbreast sunfish	X	X	Medium sized, flowing streams, sometimes with vegetation.

Appendix Figure 7b

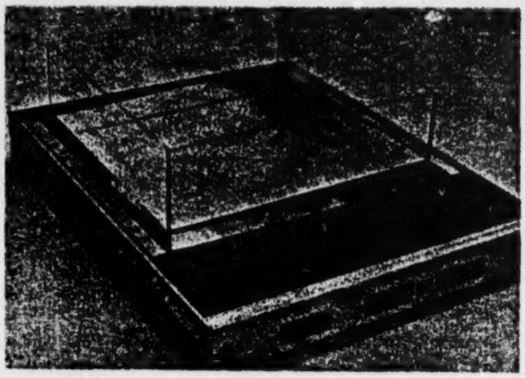
Table 2.7-16 Results of Fish Sampling Conducted in November, 1977 at Swift Creek and Four Local Control Streams.

Station	Replicate	No. Species	Diversity $\bar{D}$	Total Weight (g)
Swift Creek				
SC-2	1	0		
	2	0		
	3	2	0.44	15.9
Average $\bar{D}$ = 0.44 Estimated Station Biomass = 1.83 kg/ha				
SC-4	1	4	1.92	11.4
	2	3	1.39	13.2
	3	3	1.09	36.9
Average $\bar{D}$ = 1.47 Estimated Station Biomass = 4.04 kg/ha				
SC-7	1	5	0.43	92.3
	2	4	0.71	45.4
	3	2	0.99	168.2
Average $\bar{D}$ = 0.71 Estimated Station Biomass = 26.37 kg/ha				
ABC-8	1	4	0.13	886.3
	2	1	0	10.6
	3	4	0.41	101.7
Average $\bar{D}$ = 0.18 Estimated Station Biomass = 47.19 kg/ha				
SC-9	1	3	1.15	50.5
	2	3	0.87	26.3
	3	4	1.83	82.1
Average $\bar{D}$ = 1.28 Estimated Station Biomass = 16.52 kg/ha				

FISH ACTIVITY MONITOR
monitors water pollutants

Figure 8

"Opto-Varimex-Aqua" is intended as an early warning system for drinking water supply. As some fish are very sensitive to water pollutants, injection of a polluted water stream into the aquarium makes fish avoid polluted area and position itself in areas not harmful to its health. Graphical picture of fish path on X-Y plotter documents and indicates any changes in fish behavior. Two arrays of low intensity red light beams intercepted by light sensors help monitor activity in the 15" x 15" x 8" aquarium. Electronic counter provides information measured in distance traveled by fish. Basic instrument monitors fish in two dimensions (X-Y), requiring rather shallow aquarium; three-dimensional monitoring is possible with additional sensors. Columbus Instruments, 950 N. Hague Ave., Columbus, OH 43204.



Circle **164** on Reader Service Card

Appendix Figure 9

Fisheries puts action behind University motto—

Helping Feed People from Here to the Sudan

By Kaye Lovvorn '64

Its title is the Auburn Department of Fisheries and Allied Aquaculture and it includes the International Center for Aquaculture. All one has to do to believe the international part is to spend three weeks trying to catch department head Wayne Shell in his office as he passes through town back from the Sudan or off to Egypt and then when you get him arrange an appointment in 20 minutes—otherwise he's leaving town again and there's really no one else to talk to because as soon as he mentions a possibility he remembers no, he's in Columbia, or leaving for Brazil or somewhere. Accidentally eavesdropping in the outer office of the Fisheries Department as you wait—somebody else got to him before you could get across campus—only emphasizes that international connection. But once in Dr. Shell's office, you discover that his mind is not ranging over the world—he's really thinking about Auburn and Alabama: "I would like to build a sense of pride in the people of the State of Alabama for their contributions to an international program of such import."

'Swingle never lost sight of the goal of serving mankind; he never quit trying to help people.'

Somebody once told Dr. Shell that it was hard to believe that conservative Southerners (such as Alabamians have a reputation for being) had supported an international program such as the fisheries one at Auburn. As Dr. Shell recalls he answered that, "Southerners are made up of Missionary Baptists and Missionary Methodists and when you consider that background, it really isn't all that hard to believe."

Explaining further, Dr. Shell says "I think the people of Alabama can really be proud because Auburn is the best example of what an educational institution ought to be. Auburn has had the opportunity to serve the farmers in their home counties and has been an effective force in improving the Southern way of life, and Auburn has a national reputation—we are called on for information and service by other states and for national programs—and then Auburn also has an international program."

Peace Corps trainees get experience with pond seining in Fisheries project.

—Agricultural Experiment Station Photo

Auburn has always used its expertise to help people and that's what the fisheries program has built on. In Dr. Shell's words, "Auburn has recognized the similarities between people all over the world and tried to help no matter where in the world. It is a thrilling opportunity that we're proud of and we want the people of Alabama to be proud of."

'One of him was equal to about ten of the rest of us so he made great strides. He left us a great legacy and a great foundation.'

Fresh Fish
FROM AUBURN UNIVERSITY'S AGRICULTURAL EXPERIMENT STATION
Try It ~ You'll Like It
Please try these specially developed fish recipes along with your family favorites.
African Perch

Market study in local supermarkets helps determine consumer acceptance of new pond-reared species.

—Agricultural Experiment Station Photo

Much of the support for the Department of Fisheries and the International Center comes from outside the state of Alabama, but as Dr. Shell says, "We sure could use some money from the state. We're actually providing services to the people of Alabama on money from other places.

"Fish farming is not big business in Alabama. We're nowhere in the ballpark of forest products and poultry, for instance, but we do have a vast potential, and we need to get the state to recognize that and invest in that potential. And of course the same is true of the University, which is so involved in solving the immediate problems, that they have little time to think about future possibilities."

The Fisheries Department is in a unique position—most of its money (75 percent) comes from outside sources which aren't all that dependable. A grant this year may not be forthcoming next year. Perhaps, Dr. Shell admits, the percentage of support that Auburn Fisheries gets from the state is appropriate for a fish pond farming industry but not for future investment. Almost everyone knows by now that fish is good protein source, and it is apt to become more and more important in the future—in Alabama as well as in Africa—but only if its potential is supported. In Dr. Shell's words, "Fisheries is a good place for investment in the future."

When you stop to think about it, Auburn is a strange place for a Department of Fisheries, much less an International Center of Aquaculture. The nearest bodies of water—Saugahatchee and Chewacla Creeks—are better known for their pollution(the former) and rocks (the latter) than fishing. But despite its setting, Auburn fisheries has become important in Alabama, the nation, and the world.

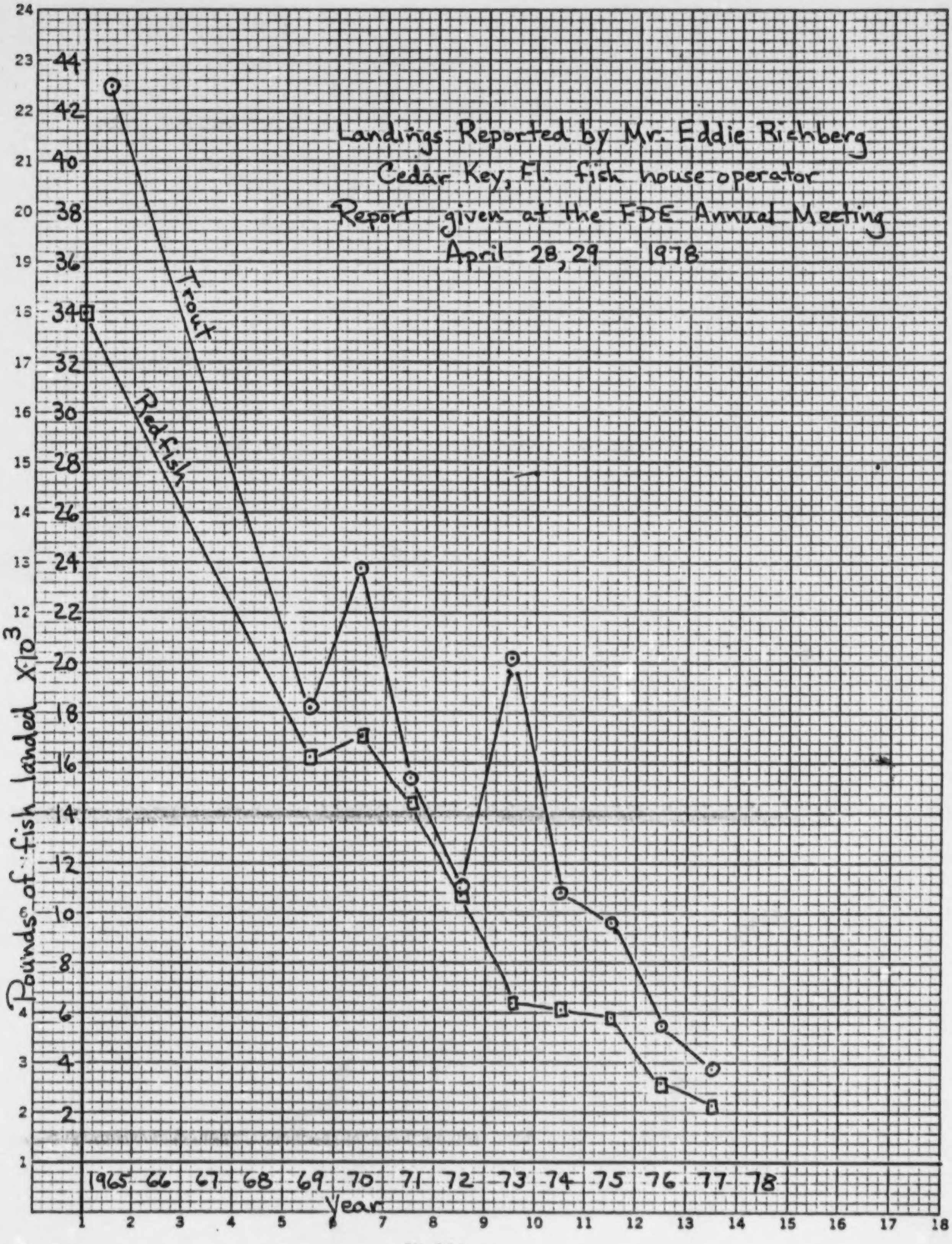
That importance resulted from "being in the right place at the right time," according to Dr. Shell, "and of course, Dr. Swingle was a genius." Recent alumni may need to be reminded that Dr. Swingle is Dr. Homer S. Swingle who spent more than 40 years with Auburn fisheries program, making it into an international program before his death in 1974 when he was succeeded by Dr. Shell. Obviously Dr. Shell is a deep admirer of his predecessor and his work and has tried to keep the program moving in the direction Dr. Swingle had established.

As Dr. Shell explains:

"Alabama in the Mid-Thirties was really an underdeveloped country. We had pellagra, hookworms, malaria, poverty, hunger, and malnutrition. Swingle and Smith [Dean Emeritus of Agriculture E.V. Smith] when they started, tried to address those problems. One of the problems was a lack of fresh meat—a supply of protein on a year-round basis. There was no rural refrigeration and if you killed a hog you had to smoke it, salt it, and generally make it uneatable to bugs and bacteria to preserve it for human beings and in the process you made it almost uneatable for them.

(Continued on page 14)

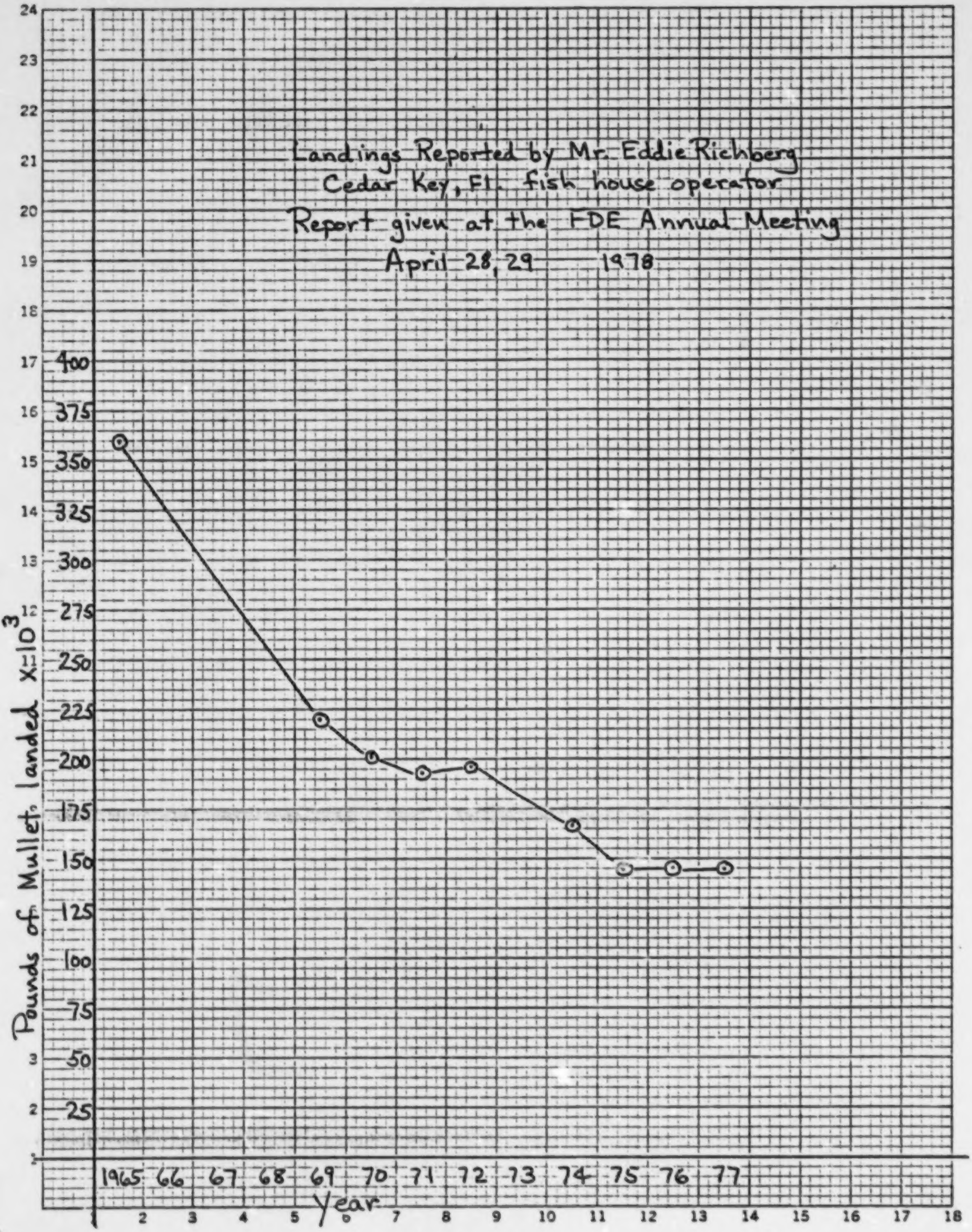
Appendix Figure 10a



Landings Reported by Mr. Eddie Richberg
Cedar Key, Fl. fish house operator
Report given at the FDE Annual Meeting
April 28,29 1978

5 Squares to the Centimeter

Appendix Figure 10b



Landings Reported by Mr. Eddie Richberg
Cedar Key, Fl. fish house operator
Report given at the FDE Annual Meeting
April 28, 29 1978

5 Squares to the Centimeter

Responses to C-18

1. The interpretation of the Biotic Index is discussed in T12. (Section 2.7 of the Summary Document).

2. The EIS points out as does the commenter that SCT-3 and SCT-5 are tributary streams of Swift Creek and they do provide colonizer organisms for Swift Creek. However, SC-4A and SC-4B were chosen as representative for Swift Creek because they offered varying substrate conditions in one location. Two locations were sampled to analyze the effect of sand versus rock substrate and the presence or absence of a forest canopy which restricted sunlight.

   The fact that SC-4 can receive colonizer organisms from a tributary stream and that they seem to readily adapt to life at SC-4, indicates that the water quality is not imposing stress to the organisms. This again indicates that a substrate limitation and not a water quality limitation is the cause of lower diversity at other Swift Creek Stations.

3. Mr. Richberg's comments concerning decreased catch of mullet at Cedar Key could be true. However, they must not be construed to mean that Occidental is causing this apparent decline. Commercial marine fishery catches in general have been declining worldwide. For example, reports on the west coast of Florida marine fishery indicate a downward trend beginning in 1965 (Prochaska and Cato, 1965). Reviews of catch success and effort indicate that the decline

Responses to C-18 continued

in landings is due to increased fishing pressure by commercial, recreational and foreign flag fishermen (Bullis and Jones, 1976). Apparently, over-exploitation of the fishery resources by man, and not pollution, is the major cause of decreases in landing success such as that shown by Mr. Richbergs graphs.

Bullis, H.R., Jr. and A.C. Jones. 1976. Proceedings: Colloquium on snapper-grouper fishery resources of the western central Atlantic ocean. Florida Sea Grant Program. Report #17, Nov. 1976, 333 pp.

Prochaska, F.J. and J.C. Cato. 1975. Landings, values and prices in commercial fisheries for the Florida West Coast. Florida Cooperative Extension Service, Marine Advisory Program. SUSF-75-003, 67 pp.

4. The question of pH restrictions is addressed in T1.

C-19

Lake City -::- Columbia County
Chamber of Commerce, Lake City, Florida

"florida's new gateway —:— p. o. box 566 —:— telephone area code 904 752-3690

August 30, 1978

Mr. John E. Hagan, III
Chief, EIS Branch
Environmental Protection Agency, Region IV
345 Courtland Street, N. E.
Atlanta, GA 30308

Re: EIS, Proposed Swift Creek Chemical Complex
Occidental Chemical Company, White Springs, Florida

Dear Mr. Hagan:

The Lake City-Columbia County Chamber of Commerce, representing over five hundred persons with business interests in the Columbia County area, wishes to express its approval of and support for the above captioned development.

The continued responsible development of the Occidental Complex can have only the most favorable and beneficial of impacts upon this area. The careful extraction of our mineral resources, the conscientious protection of our environment in so doing, and the faithful reclamation of the mined areas is of immediate and long-term benefit to the area and its citizens . . . and these benefits are of tremendously significant importance.

In its Hamilton County operations Occidental is providing jobs for our people, recreation for our area, economic benefits for the business community, and they contribute in no small way to the development of trade in foreign markets. Through their close work with the U.S. EPA and the Florida DER, Occidental has demonstrated their willingness and ability to satisfactorily reconcile environmental and economic considerations with agreeable and acceptable guidelines that afford maximum utility of the resource and protection of the environment. Their restoration of mined areas has been superb, and meets not only EPA/DER/DNR standards, but the almost unanimous approval of this area's hunters, fishers and outdoorsmen.

We feel that Occidental has demonstrated its sensitivity and responsiveness to the many interests that must be served in this matter, and that Occidental has proven itself to be a considerate, responsive and responsible corporate citizen in our community, state and nation.

We wholeheartedly support their plans for expansion of the White Springs chemical complex and we support the EPA/DER recommendations that the permits for the proposed expansion be issued.

Most sincerely yours,

Dick Walden

Dick Walden
Executive Vice President

DW:jn

C-20

Leo M. Powell,
Powell Reporting Service,
P. O. Drawer 940
Live Oak, Florida 32060

August 30th, 1978

U. S. Environmental Protection Agency,
Region IV,
345 Courtland Street,

Atlanta, Georgia 30308

Attn: R. E. McNeill,
Project Manager,
Phosphate Study Unit.

Dear Mr. McNeill:

I enjoyed reading your letter of August 28, 1978, and I admire your defense of Ms. Andrea Zimmer, and I know that you must be a very gallant, highly witty, and extremely intelligent gentleman.

Well, number in this letter, because I want this in under the August 31 deadline, as announced by Mr. Hagan, I would like to make a few comments about Occidental Chemical, and the permit requested. I live very near Swift Creek, and also when the wind is blowing right, the wind currents come from Occidental, and I cannot distinguish any difference in the air currents coming from toward Occidental as those coming from any other direction. I also enjoy the river, and I live closer to the river than most of the speakers, and I enjoy fishing in the river, the Suwannee River, and the fish are very enjoyable and the fishing.

Also my children have been swimming in Suwannee Springs, which is actually a part of the Suwannee River, a beautiful spring which gushes out of the ground, at Suwannee Springs.

I find nothing wrong with the environment and I might say that there is only about a half mile between my home here and the Suwannee River, if that much, and there are turkeys and deer and quail and foxes and the like. I've been living here since 1972. I think that the engineers at Occidental will and have always done their best to prevent any damage to the aquifer, or to the Suwannee River, or to Swift Creek, and a finer group of gentlemen one could never meet. So, I am very much in favor of the permit. I would be very disappointed if they did not get it. So much for Occidental.

I spoke to Ike Butler at 9:15 this evening, and he stated that he received copies of the transcript, and his secretary received a call this past Monday from someone in Atlanta wanting to make a complaint, Mr. Butler understood it that someone believed that he was the head Court Reporter and might get me punished. I will take that matter up with you later on and I will end the letter at this point.

Thank you very much,

Leo M. Powell

Leo M. Powell, Certified Shorthand
Reporter.

Route 8, Box 78
Lake City, FL 32055
August 30, 1978

Mr. John E. Hagan, III
Chief, EIS Branch
Environmental Protection Agency, Region IV
345 Courtland Street, N. E.
Atlanta, GA 30308

Dear Mr. Hagan:

I attended the August 14 hearing at White Springs regarding the proposed Swift Creek Chemical Complex of Occidental Chemical Company. After hearing the summary Environmental Impact Statement presented by the E.P.A., as well as the comments of the Florida D.E.R. representative, I was personally satisfied that once again Occidental, working in cooperation with E.P.A. and D.E.R. had developed a means of expanding their operations consistent with recognized and acceptable standards designed to insure maximum environmental protection of the area.

The voluble and tediously technical presentations notwithstanding, I feel that those who spoke in opposition to the proposal presented few, if any relevant facts concerning the matter at hand. Their primary thrust seemed to be directed toward a return of the area and its river system to some sort of pristine purity, as well as overt and oblique attacks upon EPA, DER, Occidental and Occidental's many supporters in the area.

Not wishing to become engaged in a one-sided debate with our self-professed "environmentalist intelligentsia" (in which I would probably be "out-whizzed," anyway!), and being satisfied that Occidental's proposal had been developed with the cooperation and approval of the appropriately concerned and responsible regulatory agencies, and being satisfied that the proposal would assure maximum utilization of our resources and afford prescribed protection of the environment, I chose not to speak at the meeting.

I write, however, so that my opinions may be included in the record of the proceedings. I would not, by default, want anyone to conclude that because the hearing was dominated by "anti-" forces, that there is no interest and/or support from those who approve of this proposal. That would, indeed, be a great and serious error.

I am a canoeist, camper, fisherman and scuba diver. Since moving to Lake City some four years ago, I have enjoyed these activities in and on the Suwannee River both above and below the Swift Creek entry. From personal experience, I consider the environmentalist's case for the ecologically damaged Suwannee to be non-existent, and their dire predictions of doom and gloom seem akin to Chicken Little's "the sky is falling!"

Based upon Occidental's demonstrated record of concern and responsiveness in environmental matters, and based upon the August 14 presentation of the EIS summary and the DER comments, and also with full consideration for a magnificently beautiful waterway, I have no hesitation in endorsing and supporting the proposed Swift Creek Chemical Complex.

Sincerely,

Dick Walden

Dick Walden

DW:jn

P.S. May I also commend EPA for attempting to limit presentations at the hearing to five minutes each. I for one, sincerely appreciate this procedure. It applied fairly to both "pro" and "con" presenters, and five minutes is certainly adequate time to state a position and summarize why that position is held. I feel that the hearings should not be unnecessarily prolonged and the audience should not be needlessly subjected to tedious (sometimes nearly terminal) exercises in suppositional chemistry, speculative mathematics, and theoretical ecology. There are many things that are worthy of conservation . . . time is certainly one of them and I applaud your "five-minute rule!"

DW

C-22

SINCE NINETEEN HUNDRED
"THE VOICE OF CONSERVATION"

August 29, 1978

Mr. John Hagan
Environmental Protection Agency
345 Courtland Ave.
Atlanta, GA 30308

Dear John:

Enclosed is a copy of my presentation to the White Springs hearing of August 21st.

I recommended in my statement that efforts be made to reduce discharges below those permitted under the NPDES. I did not suggest what procedures might be employed to accomplish this. I prefer to leave those options up to the parties most intimately familiar with the Swift Creek Complex, ie EPA, DER, and the Occidental Company.

However, I do have some ideas that I have talked with all three parties about and that seem feasible and constructive. In simplest terms, I would suggest greater cleanliness on the plant site combined with sheet flow through portions of the Swift Creek Swamp as the methods to approach zero discharge.

There seems to be general agreement that non-process water becomes contaminated as a result of spills and leaks,not from fundamental inadequacies in pollution control equipment. The company argues that these spills are minor relative to the huge volumes of material handled. On the other hand, these spills make up the majority of the "pollution problem."

If the spills can be avoided by greater attentiveness by labor, that would be fine. But if it is inevitable that they occur, perhaps they could be cleaned up. For example, might it not be reasonable to sweep up dry chemicals and put tubs under leaky joints or valves?

If dry materials spill regularly on dirt or grass, could these areas be decked with cement to make clean-up easier?

I cannot be terribly specific about how and where to employ the clean-up approach, but it doesn't sound drastically expensive. I do know that the Dutch are successful at keeping entire cities rather tidy. Another mundane example is illustrated by my experience in the Navy. Soon after going aboard I learned, to my dismay, that the

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921 Lake Sybelia Drive • P. O. Drawer 7 • Maitland, Florida 32751
(305) 647-2615

entire crew was expected to clean the ship from stem to stern at the end of every working day. Perhaps Occidental could initiate an afternoon cleaning detail and capture hundreds of pounds of chemicals that would otherwise end up in the Suwannee.

If runoff was then filtered through the Swamp, I think the ultimate discharge would be exceedingly clean.

I toss these ideas into the hat of decision making. I hope they are a contribution to solving an admittedly difficult problem.

With best personal regards,

Chuck

Archie Carr, III
Special Assistant to the
President for Science

rd

cc: Michael Briant
Wes Atwood

Response to C-22

1. Mitigative measures to reduce pollutant loads are described in Section 5.2.6 of the Draft EIS. The final NPDES permit provides for a test program designed to evaluate the effect of routing wastewater discharge through the low-lying area NE of the plant site. Furthermore, Part II(A)(3) of the NPDES permit requires Occidental at all times to maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used to achieve compliance with the NPDES permit conditions.

District No. 1 - Sandy P. Register
District No. 2 - Marion Mann
District No. 3 - Wayne Nettles
District No. 4 - Rodney Dicks
District No. 5 - James Montgomery

C-23

BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

August 31, 1978

John E. Hagen, III
Chief, EIS Branch
Environmental Protection Agency
Region IV - 345 Courtland Street, NE
Atlanta, GA. 30308

Dear Mr. Hagen:

The Columbia County Planning Board at their meeting on August 30, 1978, has the following comments, questions and recommendations regarding the Draft Environmental Impact Statement for the Occidental Chemical Company Swift Creek Chemical Complex in Hamilton County, Florida.

AIR QUALITY

1) It appears from data presented on Sulfur Dioxide levels from existing operations that levels of this pollutant approach the limits imposed by FDER, for maximum 24 hour and maximum 3 hour concentrations.

2) What is the potential for violation of these rules, given severe invers and or stagnant conditions, and what portion of the allowable increment for SO_2 and TSP has been and will be used by Occidental?

3) Would the existing levels of SO_2 and TSP preclude the siting of other industries in the area which also emit SO and particulates i.e. Power Plants, Wood Pulping, etc.? All modelling assumed no new sources for 10 years.

4) There is mention of acid mists forming in and around the complex under normal conditions. What is the potential for severe acid fog being formed during an upset of plant operations and what effects would this fog have on human and animal respiratory systems and on vegetation?

5) What would be the maximum area covered by such a fog and what would be the acid concentrations?

BOARD MEETS FIRST TUESDAY AT 9:30 A. M.
AND THIRD THURSDAY AT 7:00 P. M.

P. O. DRAWER 1529 • LAKE CITY, FLORIDA 32055 • PHONE 752-4242

BIOLOGY AND ECOLOGY (con't.)

14 2) Page 2-372 refers to Table 2.7-23 as the location of diversity values for SC-4 and control stations. However table 2.7-23 is a list of confirmed mammal species. Where is the table of diversity values? How representative is SC-4 compared to all other Swift Creek Stations?

15 3) Page 2-387 describes the Swift Creek hardwood forests as "a unique natural community" within the project area. Does this establish it as only a "potentially" sensitive area as stated in the Summary Document?

16 4) The vegetation associations occurring on the site are defined according to Monk. Would you please classify these systems according to Level III of the Florida Land Use/Land Cover Classification System.

17 5) The statement is made on page 169 of the Summary Document that the Suwannee River natural systems will not be "significantly affected". What "insignificantly" effects will take place, and could these effects be considered cummulative?

GENERAL

18 1) Is it correct that the EIS has shown that phosphate concentrations are already at the modified NPDES standards?

19 2) If that is true, has it not been shown that this has caused biological damage to Swift Creek?

20 3) Using the same data, is it not true that some qualified biologists have concluded that there are significant biological damages to Swift Creek, while the EIS contractors could not recognize these damages?

21 4) Doesn't the EIS show that the discharges change the chemistry of the Suwannee in the area of Swift Creek?

22 5) Isn't it true that Occidental has admitted submitting erroneous information on certain airborne discharges in the past?

23 6) Isn't it true that Occidental's NPDES reports on the chemistry of Swift Creek differ significantly from the USGS reports on the same creek?

24 7) Are EPA and FDER considering more independent verification of NPDES discharges than has been the case in the past?

25 8) Will EPA and FDER agree on State certification of these discharges if State certification requires Chap. 17-3 standards before mixing or if State certification requires sheet flow through Swift Creek swamp before entering Swift Creek?

GROUND WATER

6 1) There is no mention of the "perched" water table aquifer in the Summary Document. However, the Resource Document does briefly mention the presence of a perched water table.

7 2) What effects will the above grade gypsum stack have on this system? Will there be any lateral movement of higher concentrations of the pollutants through this system to non-process water ditches and streams.

8 3) On page 1-92 in the Resource Document the water balance tables doesn't balance.

SURFACE WATER

9 1) Page 68 of the Summary Document indicates a potential for toxicity to organisms in Swift Creek. Has acute toxicity testing (Bioassay) of effluents both process and non-process been performed?

10 2) If so, what were the results of this testing, and why were the results not included in this impact statement?

11 3) Page 74 of the Summary Document and Volume II of the Resource Document present abundant information regarding diversity indices in relation to pollution loads. However, taxon identification was in many cases to the genus level. Within each genus a variety of species occur i.e., Oligocheata, each having it's own tolerance level to pollution. As a result is it possible that the diversity indices may not be accurate (Beck Biotic Index) since the species is not known.

12 4) Page 76 of the Summary Document states that no "severe" stress is occurring. The Resource Document Volume II indicates that streams are "not stressed". Could you please clarify this issue.

BIOLOGY AND ECOLOGY

13 1) The material presented uses a variety of terms, i.e., "low stress", "no significant", "relatively good", "unstressed", "one significant exception", "relatively unstressed", etc. Do you really know what the data represented?

It is the Planning Board's recommendation that the new source NPDES permit be approved if the answers to the above questions are found to be satisfactory. However, if the answers to the above questions are found to be unsatisfactory the Board wishes to withdraw it's recommendation for approval.

The Planning Board is of the understanding that these questions will be addressed, researched, and included in the final EIS.

Thank you for allowing us this opportunity to comment on this Draft EIS.

Sincerely,

I. I. Moody
I.I. Moody
Vice-Chairman
Columbia County Planning Board

IIM:rmc

SEP 5 1978

Responses to C-23

1. Using air quality modeling techniques developed by EPA, the predicted SO_2 levels approach, but do not exceed the National Secondary Air Quality Standards. In reviewing the predicted levels however it should be remembered that the modeling techniques include a factor of safety and that the assumptions regarding meteorological conditions and emission rates were quite severe. For example, that the worst meteorological conditions occurring during a five-year period existed while all sources were operating at maximum capacity.

   Considering this the probability of a predicted violation of air quality standards occurring is less than once in five years. The probability of an actual violation occurring is significantly less. (Also see Response C-5).

2.a. See 1. above.

2.b. The maximum SO_2 impact for both the 3-hour and 24-hour periods results from emissions from sources already permitted and operating (see EIS Resource Document, Figure 3.1-2). The proposed sources, addressed by this EIS, contribute nothing to these maximum predicted levels.

The proposed sources have a maximum 24-hour SO_2 impact of 70 micrograms per cubic meter (260 micrograms per cubic

Responses to C-23 continued

meter is the FDER standard) and a maximum 3-hour SO_2 impact of 243 micrograms per cubic meter (1300 micrograms per cubic meter is the FDER Standard) as presented in Figure 3.1-2 of the EIS Resource Document.

The proposed sources would have little effect on another source planning to locate in the Hamilton County area.

The impact of the expansion was analyzed in terms of federal air quality standards (AQS) and significant deterioration increments (PSD).

The results of the analysis are summarized below.

Pollutant/Time Period	Federal AQS ($\mu g/m^3$)	Maximum Incremental Impact ($\mu g/m^3$)		PSD Increment ($\mu g/m^3$)	
		Class I	Class II	Class I	Class II
Particulate Matter*					
Annual	75	0	0	5	19
24-hour	260	0	9	10	37
Sulfur Dioxide					
Annual	80	0	3	2	20
24-hour	365	1	39	5	91
3-hour	1300	9	131	25	512

*Does not include background

3. See 2.b. above.

4. There is no possibility of an acid mist forming in or around either the existing or proposed chemical complexes under normal conditions. Mist from Sulfuric Acid plants is limited by state and federal NSPS regulations.

Responses to C-23 continued

The new sulfuric acid plants, addressed by this EIS, will incorporate demonstrated high efficiency mist eliminators. These eliminators will assure that, even under upset conditions, the acid mist emission rate will not exceed applicable State and Federal standards.

5. See 4. above.

6. In both the Summary and Resource Documents, the "perched table water aquifer" is referred to as the "surficial aquifer". The surficial aquifer is described in Section 2.6.3 of the Summary Document and corresponding sections of the Resource Document.

7. Seepage from the gypsum stack-cooling pond complex into the surficial aquifer is discussed in Section 2.7 of the Summary Document and the corresponding section of the Resource Document. Impacts of the seepage on the surficial aquifer are discussed in Section 3.2.2.3 of the Summary Document.

   Based on studies surrounding the existing 12-year old gypsum stack the impact on the surficial aquifer of the proposed facility is predicted to be negligible except in a very localized area.

Responses to C-23 continued

A comparison of the expected concentrations of process and nonprocess water quality parameters indicate that the concentration of any potential pollutant in nonprocess water is only a small fraction of the same parameters in process water. For example, the concentration of fluoride in nonprocess water is only slightly greater than 0.1 percent of the concentrations of fluoride in process water. Considering the negligible impact predicted from process water on the surficial aquifer no effect from nonprocess water is expected. Based on evidence presented in the EIS concerning the seepages of process water into the surficial aquifer (referenced above), lateral movement of concentrated pollutants to the surficial aquifer through nonprocess water ditches and streams is not expected.

8. The table on page 1-92 has one typographical error. The flow from the scrubber stack should be 0.10 instead of 0.01 mgd. This correction closes the water balance.

9. No valid bioassay data has been collected for either nonprocess or process water from the existing plant. Bioassay work was performed on pilot plant effluent from a new alternative process which was considered for use. However, the process was rejected by Occidental Chemical Company as of July, 1978.

10. See 9. above.

Responses to C-23 continued

11. No, all Oligocheates are placed in Class III by Beck (1954) regardless of their genus due to their relative intolerance to organic pollution.

    Other indices such as diversity and equitability have no relationship to Beck's classification of organisms into pollution tolerance classes. They are based on the distribution of the total number of species among taxa.

    Beck, W.M., Jr. 1954. Studies in stream pollution biology.
    J. of Florida Acad. of Sci. 17-211-227

12. When all of the indices of water quality and community structure and well being are considered, Swift Creek, as a whole, does not appear stressed by water quality conditions even though the Creek does contain higher concentrations of some chemicals than other streams in the area. Some stations do not support a wide diversity of aquatic organisms due to substrate limitations which may cause them to appear stressed. However, where adequate substrate exists the aquatic communities are diverse and in good shape.

13. The authors have expended many man-months in this effort and sincerely believe they understand the data.

Responses to C-23 continued

14. Stations downstream of SC-4 have higher flow velocities, higher scour conditions and transition to a limerock channel streambed. Stations upstream of SC-4 are in channelized stream sections which have a slow flow and silty bottom sediments. The objective of the assessment was to determine the increment of stress to be imposed by the discharge addition from the proposed Swift Creek Chemical Complex. SC-4 was the station least affected by limiting factors such as substrate not related to water quality and, therefore, the station best affording the opportunity to assess the impact of water quality alone as an impact factor. SC-4 was also the best station from which extrapolations could be made to other nearby streams.

15. The assigned designation is not based on any official recognition of the locally occurring units of Southern mixed hardwoods. These forest units are locally unique because they are limited in extent and generally confined to the channel incisions draining the pine flatwoods into the Suwannee River. Restrictions on mining of the 100 year floodplain should protect many of the remaining stands. The assigned designation served to draw attention to the local uniqueness of this forest type which has been decreased in extent by timber management and agricultural practices. Restrictions of the forest type to steeply sloped lands will serve to limit future effects

Responses to C-23 continued

to occasional timbering. Southern mixed hardwoods do not occur on the proposed plant site. They do occur in the Swift Creek floodplain located several miles from the plant site. The proposed 0.5 rise in Swift Creek water levels is not expected to significantly affect the associated southern mixed hardwood community.

16. Level III vegetation classifications of the Florida Land Cover Classification and habitat types used in this study are compared below.

Monk's Classification(1)	Nearest Comparable Level III Florida Land Cover Classification(2)
Sandhills	412 Longleaf Pine
Pine flatwoods	411 Pine Flatwoods 441 Coniferous
Southern mixed hardwoods	431 Mixed Forest
Cypress Swamps	611 Cypress
Bayheads	621 Fresh Water Swamp
Mixed Hardwood Swamps	631 Mixed Forest

(1) Monk, C.C. 1968. Successional and environmental relationships of the forest vegetation of north central Florida. Amer. Midl. Nat. 79:441-457

(2) Division of State Planning. 1976. Developments of Regional Impact Guidebook. DSP-BLWM-34-76. Bureau of Land and Water Management, 660 Apalachee Parkway, Tallahassee, Florida 32304

Responses to C-23 continued

17. Obviously a list of insignificant impacts could be endless and, in the same sense, such insignificant effects could be cumulative to some undetermined degree. However, increases in chemical concentrations in the Suwannee River due to the discharge from the proposed Swift Creek Chemical Complex were so small that no impacts on the biological communities were anticipated.

18. NPDES regulations apply only to "end-of-pipe" discharges and are not applicable to concentrations of parameters in Swift Creek proper. Data in the EIS on the average compostion of "end-of pipe" nonprocess water indicates that the average daily maximum of 35 mg/1 total phosphates has not been approached. The long term average is 11 mg/1 P -- less than one-third of the maximum allowed.

19. See response to 12. above.

20. See Response to T12.

21. Yes, the EIS describes how the discharge from Swift Creek has increased some chemical parameters in the Suwannee River near its confluence with Swift Creek. These impacts are discussed quantitatively in Section 2.6.4. and 3.2.6 of the Summary and corresponding sections of the Resource Document.

Responses to C-23 continued

22. By letter to the State of Florida Department of Environmental Regulation and EPA in May of 1978, Occidental disclosed that certain compliance tests for fluoride emissions on a diamonnium phosphate plant were not conducted with the plant operating under normal conditions.

24. Monitoring at the Occidental site is consistent with the overall monitoring program of EPA. Unfortunately, the level and intensity of EPA and FDER verification monitoring is dependent upon resource contraints and at this time we can not commit to more than is presently being done.

25. See the proposed NPDES permit as modified.

C-24

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

REUBIN O'D. ASKEW
GOVERNOR

JOSEPH W. LANDERS, JR
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

September 7, 1978

Loring Lovell, Chief
Bureau of Intergovernmental Relations
Department of Administration
Division of State Planning
Room 530, Carlton Building
Tallahassee, Florida 32304

Dear Mr. Lovell:

Draft Environmental Impact Statement, Occidental Chemical Company, Swift Creek Chemical Complex, Hamilton County, Florida, SAI No. 79-0163E

The Occidental Chemical Company proposes to increase the superphosphoric acid capacity of its north Florida phosphate fertilizer manufacturing complex. Increased capacity will be provided by a two phased expansion. Phase I involves modification of the existing Suwannee River Chemical Complex. Phase II proposes the construction of a new chemical plant, the Swift Creek Chemical Complex. The Environmental Protection Agency has determined the Swift Creek Chemical Complex expansion to be a new source as defined in Section 306 of the Federal Water Pollution Control Act Amendments of 1972.

The Environmental Protection Agency in complying with its responsibilities under NEPA of 1969 has determined that the issuance of a new source National Pollution Discharge Elimination system (NPDES) permit, for the discharge of non-process and process water to Swift Creek, would constitute a major federal action. Therefore, a draft environmental impact statement has been prepared.

The proposed chemical complex will be located adjacent to the existing Swift Creek mine. The new facility will require approximately 50 acres for the plant and 275 acres for a cooling pond and a gypsum storage impoundment. Process units and related facilities will include a phosphate rock transport system, two contact double absorption sulfuric acid plants, a dihydrate wet process phosphoric acid plant, phosphoric acid evaporation facilities, a phosphoric acid clarification plant, and two superphosphoric acid plants. The Department of Environmental

Regulation has reviewed the above referenced draft EIS and submits the following comments:

Biological Assessment: In general the biological data and methodologies seem appropriate. However, there are several rather basic flaws in the chain of logic based upon these data. The logic used in the EIS is as follows: 1) data indicate that Swift Creek is biologically similar to other waters in the area, 2) these other waters are representative of the conditions in Swift Creek prior to the initation of the existing discharge, 3) therefore, Swift Creek has not been damaged by past discharges, and 4) therefore, additional discharges will not affect it. The fourth point does not seem to be explicitly stated, but is strongly implied.

The first premise may be correct, in that the data which are presented
do not seem to show substantial differences between Swift Creek and
the other waters. More data, of course, might change this.
Statistically, failure to find a difference is quite distinct from
proof of identity. The second premise is certainly erroneous in that,
1 Roaring Creek is a least partially channelized and Hunter Creek
receives the large portion of it discharge from previously mined areas.
Further, the Suwannee River can hardly be considered comparable
biologically to Swift Creek. Therefore, the conclusion as to a lack
of damage to Swift Creek is not justified on the basis of the evidence
presented. At the very least, a careful analysis of the bodies of
water in question should be made, to show that they are representative
of Swift Creek in its unpolluted state.

The most significant data relating to aquatic biology are those per-
taining to macroinvertebrate diversity and to Beck's biotic index
(summarized on pp. 2-474 and 2-475). With respect to the data
2 presented for Swift Creek, these are not necessarily indicative if
high water quality. Typically, in a clean north Florida stream, one
would expect diversities of greater than 3.0 and biotic indices a
15 or higher. The mean values given are much lower than this.

One substantial omission, in terms of projected environmental impact,
has been noted; the lack of any proper assessment of impacts of
changes in nutrient loading. It is evident that considerable N and P
3 loadings may occur, but, because no effects have been reported in
Swift Creek, no further investigation of review of the situation is
made. In reality, increased nutrient loadings do not normally have
readily discernable impacts on reasonably rapidly flowing waters.
Rather, the possibility of such impacts downstream of Swift Creek
must be addressed.

As a final point, the reporting of the chemical water quality data
gathered from July, 1977, through February, 1978, is entirely
4 inadequate (see p. 2-214). Ranges alone are of little use. Means
would have been of some value, had they been reported. The actual
uncondensed readings, however, are definitely needed to allow proper
evaluation.

Water Quality: 1. The report in general contains a large amount of very good data yet fails to explain the true impacts of mining on water quality in Swift Creek and the Suwannee River. 2. As noted in the text (p-95) the historical development of the mine proceeded as follows:

1950's	Timber clearing and ditching with drainage
1965	Mining started
1975	Swift Creek Mine started
1978	6000 total acres mined
1978-2000	Total mining will be up to 37,000 acres with 10,000 acres in the Swift Creek drainage area.

Note that the planned mining activity will increase by a factor of
6 in a time span of 22 years. Consequently, the mining activity at
the Swift Creek mine will have to increase by a factor of from 2 to
3 its present rate of operation. Since no chemical complex is
planned for the Osceola National Forest across the Suwannee River,
we could assume this activity might take place at the Swift Creek
or Suwannee River mine. The planned increase in flow with the new
5 permit (7.7% according to p. 15 of summary document) is not
consistent with the planned increase in mining activity.

It is not clear from the EIS whether the proposed Swift Creek
6 Chemical Complex on p. 17 will be desinged for only a maximum 7.7%
increase or a much larger increase. 3. The report does not present
the true impact under low flow conditions. As noted in the attached
memorandum, Swift Creek has a substantial impact on the Suwannee
River during low flow when its flow can exceed the Suwannee River.
Reduction of discharge (p. 4) during drought conditions may alleviate
some of the problem. No mention can be found in the text, however,
to indicate what the reduction would be. 4. Another impact not
considered is that of sediment deposits. 4.1. A settling pond
failure in central Florida released large amounts of clayey waste
(USGS report WRI 78-6, p. 137). The river water contained over twice
the current US PHS Drinking Water Standard for radioactivity 1.5 years
after the pond failure because of leaching of radium from the sediment
deposited in the river. Additional effects of such releases include
high turbidity, deoxygenation of stream waters and sediment deposition.
4.2. According to Table 2.6-25 the mass loading calculated for the
Suwannee River deposits a great deal of sediment below Swift Creek
7 and above Suwannee Springs during low flow conditions. 5. Water
quality violations of Class III standards. 5.1., attached shows
violations for fluoride, specific conductance, cadmium and zinc.
5.2. Dissolved oxygen violations are not mentioned in text (see
Table 2.6-14, p. 2-267). DO varies from 2.7 to 18.5 mg/l in Swift
Creek. The DO standard has both a minimum of 5.0 mg/l and maximum 110%
of saturation value. 5.3. An intensive survey of the area during

June, 1978, by DER revealed large amounts of muck in portions of
Swift Creek which could cause a benthic oxygen demand. Whether
these deposits are due to natural conditions, the timber clearing
operation, or mining has not yet been determined. 5.4. Water
chemistry of Swift Creek in 1965 (Table 2.6-16), while showing
pre-mining conditions, does not necessarily reflect natural
conditions, since timber removal and land drainage occurred prior
to the survey. 5.5. Effects of pH are not adequately explained
or related to DER criterion: pH = 6.0 to 8.5 and variation of ±1
8 above and below natural background levels. 6. The NPDES permit
application alone does not specify flows needed to calculate
specific flows needed to calculate specific impacts of each
parameter. It is not clear what fraction of the mining operation
9 is covered by the NPDES permit in the EIS. 7. The EIS fails to
examine the impacts of mining on Hunter Creek and the Suwannee River.
While the EIS considered only the Swift Creek Complex, some mention
of possible impacts from future mining in Osceola National Forest
should be addressed.

Air Quality: The EIS for Occidental's proposed Swift Creek Chemical Complex has been reviewed. Some of the projected questions (i.e. 24-hr SO_2, 3-hr SO_2, 24-hr TSP). The report did not adequately address the subject of PSD. Other comments are as follows:

1. Page 32 - was missing from the report. Thus it was impossible
10 to determine what modeling techniques were utilized or the
acceptability of the models.

2. Page 36 - the relationship between measured and predicted
11 concentrations of SO_2 & TSP at monitoring stations was not examined.

3. Page 36 - how was a background TSP level of 61 ug/m^3 determined?
12

4. Page 41 - Table 2.2.4 indicates expected second TSP maxs at
13 sites #4 & #7 of 148 ug/m^3 respectively.

5. Pages 43-45 F Samples should have been collected over a much
14 longer period of time.

6. Page 127 - the report only generally addresses PSD without
15 indicating incremental impact. Also compliance with BACT and NSPS
are only generally addressed.

7. Page 132 - care should be exercised in the issuance of a permit
16 since short term SO_2 levels from the Suwannee River Complex are
approaching ambient air quality standards. What is the impact of
modeling H_2SO_4 stacks at actual 200 feet height versus 125 feet
"Good Engineering Practice" height.

17 8. Should this EIS be accompanied by a DRI?

General Comments: In its Draft Areawide Environmental Impact Statement for the Central Florida Phosphate Industry, EPA recommends effluent concentrations for phosphate chemical processing plants which are significantly lower than those allowed in the EPA Standard of Performance for New Sources. These more stringent standards are based on technological feasibility as well as on the necessity for water quality protection. The proposed NPDES permit for the Swift Creek Chemical Complex requires similarly stringent effluent standards for discharge to Swift Creek but only when Eagle Lake is included as a part of the treatment system. When Eagle Lake is not included, the older EPA standards prevail. It is our opinion that the more stringent effluent standards should apply at all times. In view of the national importance of the Suwannee River, its status as an Outstanding Florida Water (see Section 17-3.041(3)(9) and 17-4.242 of the Revised Chapter 17-3, FAC, effective January 1, 1979), and the rapid expansion of the phosphat industry in the Suwannee River area, it is essential that maximum protection be accorded.

18 The EIS concludes that aquifer contamination from the gypsum stack will not be a problem based on monitoring of wells adjacent to two existing gypsum stacks. As the oldest of these stacks is 10 years, it is difficult to predict the effect of leaching over the indefinite life span of the stack. DER is currently working with EPA on a study of leaching from gypsum ponds. The applicant should be prepared to utilize protective measures (e.g. linings) should such be indicated by this study.

19 Ground water resources do not appear to be a major problem at this time. However, this condition may change with population expansion in the area. The applicant should insure maximum efficiency of water use through recycling of non-process as well as process water.

20 The draft EIS failed to provide alternative methods for treating process and contaminated non-process water. We recommend that additional alternatives be investigated, to include the sheet flow of process and non-process water through wetland systems on Occidental Company lands, which have been determined not to be waters of the state or transition zones thereof, to remove contaminants before discharge to Swift Creek.

21 We also believe the final environmental impact statement should include some reference to on-going mining operations on Occidental lands and the potential long-term environmental impact on other chemical discharges to streams which flow to the Suwannee River. This discussion should also include potential regulatory involvement by the Federal and State Regulatory Agencies concerning discharges to these watercourses.

We appreciate the opportunity to comment on the draft EIS and would like to see the concerns expressed above addressed in the final environmental document as required by NEPA.

Sincerely,

for Ross McWill
Doug Jones, Chief
Bureau of Permitting

DJ/rwhcok

cc: Mickey Bryant, DER, NPDES
Doug Dutton, DER, Jacksonville
Howard Marshall, EPA, Atlanta
Tim Gabriel, Gainesville
Walt Kolb, DSP

Responses to C-24

1. In their report on the "Impact of Potential Phosphate Mining on the Osceola National Forest, Florida" the USGS considered both Rocky and Roaring Creek as unaffected by phosphate operations and similar in quality to streams draining the Osceola National Forest. Hunter Creek was not compared to Swift Creek because it receives a mining discharge.

2. The EIS should not be construed to mean that Swift Creek has high water quality. It does, however, point out that diversity, equitability and Beck's Biotic Index showed no major difference between Swift Creek and other area streams. Thus, Swift Creek did not appear significantly stressed when compared to other area streams which were unaffected by phosphate mining. The data seem to indicate that any stress on the biological communities were related to substrate limitations and not water quality.

3. Nitrogen and phosphate loading from the proposed SCCC were calculated for the mouth of Swift Creek and downstream Suwannee River stations and the results showed small increases in both loadings and concentrations (Tables 3.2-2, 3.2-3, and 3.2-4 of the Summary Document). Given the small increases associated with the proposed new sources no adverse environmental impacts are expected.

Responses to C-24 continued

4. The following table is provided in response.

Mean Values Obtained in the Current Sampling Program of Streams. (All values in mg/l unless otherwise noted.)

Parameter	SC-1	SC-2	SCT-3	SC-4	SCT-5	SC-6	SC-7	ABC-8	SC-9	SC-9.5	SR-7	SR-8	RC-2	HC-1	RO-2	CB-1
Alkalinity as $CaCO_3$	40.7	43.0	6.7	56.5	12.3	49.5	60.2	67.5	49.2	38.6	7.0	11.8	2.4	44.2	33.4	42.4
BOD	1.2	1.7	1.0	1.8	1.0	1.3	2.0	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Calcium	56.0	55.7	9.2	57.0	8.9	55.3	53.0	62.0	22.0	16.5	3.4	9.6	2.4	22.8	8.3	13.0
Chloride	16.9	14.0	14.0	14.7	11.1	17.0	14.5	16.3	13.7	12.7	21.3	7.1	7.6	9.3	7.2	8.4
Chlorophyll	44.5	50.5	0.8	66.0	1.2	70.0	78.5	125.0	6.2	24.7	0.4	5.4	0.3	28.5	0.6	1.8
Color (Alpha units)	46.7	47.0	111.7	82.6	57.8	50.8	46.7	14.3	199.2	218.0	225.0	216.2	346.0	60.0	168.0	111.2
Conductance (µmhos/cm)	588.5	637.5	166.0	629.0	102.8	595.3	552.8	719.0	286.2	233.7	82.7	112.7	88.3	170.7	170.7	103.3
Dissolved Oxygen	7.1	7.3	10.1	9.1	9.9	9.5	7.9	7.9	10.4	8.2	10.2	10.5	8.0	10.7	8.3	9.6
DOC	21.6	22.0	17.8	18.5	11.8	19.4	19.0	14.9	29.0	41.0	37.3	37.2	62.0	32.0	25.3	26.7
Flow (cfs)	32.2	35.8	0.4	31.4	0.6	29.2	22.0	22.5	4.1	4.9	265.0	258.5	17.7	4.8	0.8	2.3
Fluoride	5.8	6.3	0.3	6.6	0.4	6.8	5.3	7.2	0.6	0.5	0.1	0.4	0.1	0.8	0.5	0.3
Total Hardness as $CaCO_3$	230.0	228.5	27.2	168.2	31.0	178.8	223.5	261.2	101.2	93.3	15.7	42.7	17.2	96.7	38.7	61.0
Magnesium	18.5	18.3	2.0	16.3	2.0	18.2	18.2	21.2	9.8	9.3	1.4	3.7	2.1	9.2	3.9	6.3
Nitrogen																
Ammonium	13.31	13.19	0.11	13.46	0.06	14.30	15.74	22.66	0.14	0.13	0.10	1.23	0.16	0.21	0.25	0.05
Nitrite and Nitrate	2.38	2.14	0.52	1.64	0.91	1.34	1.03	1.27	0.18	0.24	0.02	0.22	0.01	0.55	0.19	0.56
Organic	1.30	1.12	0.62	1.46	0.30	1.54	1.93	1.78	1.28	1.11	0.68	0.64	1.21	0.66	0.63	0.67
Oil and Grease	1.0	1.0	1.0	1.0	1.0	1.5	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
pH	6.8	6.8	6.5	6.7	6.5	6.8	6.8	6.7	6.2	6.4	6.4	6.5	5.9	7.4	6.6	7.2
Phosphate as P																
Ortho	37.50	42.43	0.76	44.82	0.77	43.90	34.25	52.93	4.33	4.55	0.42	2.24	0.07	0.52	0.93	0.50
Total	44.55	46.72	0.88	54.48	0.84	48.90	41.48	68.00	2.20	2.52	0.50	2.38	0.12	0.60	1.04	0.60
Potassium	1.8	1.8	0.8	1.8	0.5	1.8	1.7	2.1	0.3	0.4	0.2	0.5	0.2	0.6	0.6	0.2
Redox Potential (ORP)	162.5	164.2	153.3	128.3	113.3	162.0	172.0	69.0	136.0	165.0	174.0	141.6	200.0	171.0	168.0	153.0
Silica	33.5	29.7	8.7	25.9	8.3	34.1	44.8	52.4	18.9	16.0	12.0	27.0	10.0	11.0	30.0	39.0
Sodium	25.3	26.2	3.8	25.9	3.3	26.1	26.0	21.1	8.1	8.4	3.3	6.3	4.2	9.9	3.4	5.0
Solids (Dissolved)	611.6	588.0	85.6	563.0	72.4	548.8	512.0	614.5	199.5	201.3	75.0	153.2	130.5	171.5	92.0	96.5
Solids (Suspended)	9.31	9.8	5.7	12.6	7.6	19.8	16.2	23.9	38.0	39.2	7.3	5.4	3.3	5.4	6.2	22.0
Sulfate	223.0	232.2	7.4	273.2	6.4	262.5	188.8	249.2	35.1	32.0	14.1	18.3	12.9	37.8	24.1	5.6
Sulfide	0.4	0.3	0.5	0.6	0.5	0.4	0.4	0.4	0.7	0.9	0.9	0.7	1.1	0.6	0.5	0.6
Surfactants (MBAS)	0.02	0.03	0.03	0.03	0.02	0.02	0.03	0.04	0.02	0.002	0.02	0.03	0.02	0.01	0.01	0.02
Temperature °C	15.8	15.3	14.8	15.6	15.4	16.9	17.0	17.5	16.1	12.3	13.1	12.8	11.4	12.9	13.0	11.7
Turbidity (NTU)	4.8	4.7	1.3	6.0	1.2	5.6	8.4	11.8	11.8	16.8	1.2	1.5	1.3	3.3	3.2	2.7

Note: Sampling program conducted from July 1977 to February 1978.
SC = Swift Creek Station; SCT = Swift Creek Tributary; ABC = Altman Bay Canal
SR = Suwannee River Station; RC = Rocky Creek Station; HC = Hunter Creek Station
RO = Roaring Creek Station; CB = Camps Branch Station

5. Mine water discharge rates have no relation to chemical plant facilities existing or planned. The existing mines (Swift Creek and Suwannee River) will each operate at a rate consistent with market demands independent of additional facilities to upgrade phosphate rock product to SPA. The Swift Creek Chemical Complex has been estimated to have a discharge of 1.65 MGD. Any major alteration that would substantially increase the production, and thus discharge, would require a modification to the NPDES permit. Therefore, impacts from any larger discharge would be examined at the time of modification, if any.

Responses to C-24 continued

6. Impacts during low flow (M(7,2) and M(7,10)) conditions are examined using the estimated annual average of 2.4 cfs nonprocess water discharge. This was the most conservative approach since it would represent "worst case" conditions. As discussed in Section 3.2.4.2 of the Summary Document a reduction of 40 percent and 27 percent in the nonprocess water discharge under M(7,2) and M(7,10) low flow conditions, respectively, has occurred in the past. It is likely that the discharge from the proposed SCCC will experience similar reduction.

7. The comments reflect the fact that certain water quality criteria have been exceeded on limited occasions in Swift Creek. Data indicating this were provided in the Resource Document in Tables 2.6-14, 2.6-11 and 2.6-20. Effects of pH are discussed in Section 2.6.4.4.1 of the Resource Document. NPDES permit pH effluent limitations are discussed in T1.

8. EPA effluent guidelines for phosphate chemical plants and mines are based on concentration (mg/l) limits rather than loading. (See response to T20).

   The proposed NPDES permit covers Occidental's operations on the west side of Swift Creek, that is, the proposed SCCC and the Swift Creek Mine.

Responses to C-24 continued

9. The Suwannee River Mine discharge to Hunter Creek is permitted under NPDES Permit #FL 0000655. The SCCC will discharge only to Swift Creek. The draft EIS is a site specific study for the proposed SCCC; possible impacts from future mining in the Osceola National Forest are being addressed in another site specific EIS.

10. Air quality modeling to establish preconstruction levels of SO_2 and TSP was conducted in accordance with guidelines published by the U.S. Environmental Protection Agency (EPA 1977). The Air Quality Display Model (AQDM) was used for simulating annual conditions and the PTMTPW was used for simulating short-term conditions.

11. SO_2 and total suspended particulate matter (TSP) levels were measured, for purposes of the EIS, to establish background concentrations, not to validate levels of these substances predicted with air quality models.

12. The procedures used for determining 24-hour and annual background levels for TSP are described in the EIS Resource Document (Section 2.2.2).

Responses to C-24 continued

13. The highest expected 24-hour TSP levels were not calculated since these were not required under "Interim Guideline on Air Quality Models" (OAQPS No. 1.2-080, EPA, October 1977). (Section 2.2 EIS).

14. The period of time over which forage grass samples were collected and analyzed for fluoride represented the time of year when, historically, FDER has always found the highest fluoride levels in grass collected in the phosphate area of Central Florida. The monitoring data reported in Section 2.2.2, therefore, is expected to represent a "worst-case" condition.

15. PSD, BACT, and NSPS were addressed in a separate document presented to EPA in November 1977 (EIS, Section 3.1). See PSD approval letter, dated March 30, 1978. PSD increments are discussed in response C-23-2.

16. Modeling of emissions from the proposed sulfuric acid plants was not conducted with the actual stack height of 200 feet since PSD regulations require that modeling with "Good Engineering Stack Height". With the actual stack height however, the predicted ground-level impact will be less than that predicted with the "Good Engineering Practice" stack height (125 feet) and reported in the EIS (Sections 3.1.2 and 3.1.3).

Responses to C-24 continued

17. State Development of Regional Impact (DRI) requirements are separate from and not related to the EIS process.

18. EPA agrees. In addition, Occidental will conform to Condition 1, Other Requirements, Part III, of the proposed NPDES Permit #FL 00036226.

19. See response T10.

20. See response T10 and proposed NPDES permit.

21. The purpose of the draft EIS was to evaluate the impact of the proposed SCCC. In order to assess these impacts, the ambient environment was examined. This environment has been modified by the two mines and the SRCC, existing sources which have been permitted to discharge by EPA and FDER. (NPDES Permit #FL 0000655). Thus the discharges from the existing facilities were considered in assessing water quality.

    Any further activities resulting in discharges to the Suwannee River would necessitate additional studies and permits from EPA, FDER, and the Corps of Engineers. The new discharges would be required to meet applicable regulations, such as NEPA, EPA 208 and 201 guidelines, and FDER regulations including Outstanding Florida Waters criteria.

OXY

OCCIDENTAL CHEMICAL COMPANY, FLORIDA OPERATIONS, Post Office Box 300, White Springs, Florida 32096, Telephone 904 397-8101

C-25

August 24, 1978

Ms. Andrea Zimmer
Project Coordinator
Environmental Protection Agency
345 Courtland Street
Atlanta, GA 30308

Re: Occidental Chemical Company
Environmental Impact Statement
SPA Project

Dear Ms. Zimmer:

This is to advise that Occidental Chemical Company, after careful evaluation, has selected the hemihydrate phosphoric acid process for the referenced project.

Since the draft EIS specifically referenced the hemihydrate process as a viable process option alternative, we suggest that the final EIS specifically indicate that the hemihydrate process has been chosen.

We sincerely appreciate the cooperation and courtesy you have given us.

Yours truly,

M. G. Sierra
Project Manager

jl

cc: A. A. Guffey
J. D. Hull
M. P. McArthur
R. S. Sholtes
W. D. Stephens
W. W. Atwood

APPENDICES

Permit No. FL0036226
Application No.

DRAFT

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

SEP 07 1978

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq; the "Act").

Occidental Chemical Company
Post Office Box 300
White Springs, Florida 32096

is authorized to discharge from a facility located at

White Springs, Florida

to receiving waters named

001-5, 001-5A, 001-18, 001-18A,
001-22, and 001-28 - all points discharging into Swift Creek.

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective

This permit and the authorization to discharge shall expire at midnight,

Signed

DRAFT

SEP 07 1978

Paul J. Traina
Director
Enforcement Division

EPA Form 3320-4 (10-73)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: Effective when the Section 10 Lake is in use as part of the treatment system.

During the period beginning on effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial numbers 001-5, and 001-18 - combined wastewater stream. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day (MGD)	—	—	—	Continuous
Total Suspended Solids	30 mg/1	60 mg/1	2/Week	Composite
Total Phosphorus	—	10 mg/1	2/Week	Composite
Fluoride	—	10 mg/1	2/Week	Composite

Process wastewater that has been treated can be a part of this combined discharge, and then only under the conditions described on page 3.

The pH shall not be less than 5.0 standard units nor greater than 9.0 standard units and shall be monitored continuously.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at point of discharge from the Section 10 lake and at 001-5.

A.1. EFFLUENT LIMITATIONS LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from any and all point sources of process wastewater.

a. There shall be no discharge of process wastewater pollutants to navigable waters.

b. Process wastewater pollutants from a calcium sulfate storage pile runoff facility operated separately or in combination with a water recirculation system designed, constructed and operated to maintain a surge capacity equal to the runoff from the 25 year, 24 hour rainfall event may be discharged, after treatment, whenever chronic or catastrophic precipitation events cause the water level to rise into the surge capacity. Process wastewater must be treated and discharged whenever the water level equals or exceeds the midpoint of the surge capacity.

c. When the Section 10 lake is not used as part of the treatment system, the limitations on pages 4, 5, 6 & 7 are in effect.

A.2.

During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 001-28, process wastewater, under the conditions described on page 3 of 17. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day (MGD)	—	—	—	Continuous
Total Phosphorus (as P)	35 mg/1	105 mg/1	*	24-hr composite
Fluoride	25 mg/1	75 mg/1	*	24-hr composite
**Total Suspended Solids	50 mg/1	150 mg/1	*	24-hr composite
Radium 226	—	9 p Ci/1	—	—
***pH range (std. units)				

The effluent limits, and any additional requirements, specified in the attached state certification supersede any less stringent effluent limits listed above. During any time period in which the more stringent state certification effluent limits are stayed or inoperable, the effluent limits above shall be in effect and fully enforceable.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

*The measurement frequency shall be twice per week during periods of discharge, except Radium 226 which shall be monitored once per month.

**The total suspended solids limitations and monitoring requirements set forth above shall be waived for process wastewater from a calcium sulfate storage pile runoff facility operated separately or in combination with a water recirculation system which is chemically treated and then clarified or settled to meet the other effluent limitations established above.

*** pH shall be monitored at outfall(s) serial number(s) 001-5 and 001-18.

A. 3. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 001-22, contaminated non-process wastewater. This discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day(lbs/day)		Monitoring Requirements	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/day (MGD)	—	—	—	Continuous
Total Phosphorus (as P)	35 mg/1	105 mg/1	2/Week	24-hr composite
Fluoride	25 mg/1	75 mg/1	2/Week	24-hr compostie
*pH range (std. units)				

The effluent limits, and any additional requirements, specified in the attached state certification supersede any less stringent limits listed above. During any time period in which the more stringent state certification effluent limits are stayed or inoperable, the effluent limits listed above shall be in effect and fully enforceable.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

* pH shall be monitored at Outfalls 001-5 and 001-18.

A.4. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial number(s) 001-5 and 001-18, combined wastewater stream. This discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Minimum	Maximum	Measurement Frequency	Sample Type
pH range (std. units)	5.0	9.0	——	Continuous
Fluoride		10 mg/1	2/Week	Composite

The effluent limits and any additional requirements specified in the attached state certification supersede any less stringent effluent limits listed above. During any time period in which the more stringent state certification effluent limits are stayed or inoperable, the effluent limits listed above shall be in effect and fully enforceable.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

> Nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

A.5. During the period beginning on effective date and lasting through expiration, the permittee is authorized to discharge from outfall(s) serial numbers 001-5A and 001-18A - Mining Effluent. Such discharges shall be limited and monitored by thepermittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Daily Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m^3/Day (MGD)	———	———	———	Continuous
Total Suspended Solids	30 mg/1	60 mg/1	2/Week	Composite

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 2/Week by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

> at the nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

The effluent limits and any additional requirements specified in the attached state certification, supersede any less stringent effluent limits listed above. During any time period in which the more stringent state certification effluent limits are stayed or inoperable, the effluent limits listed above shall be in effect and fully enforceable.

9. For the purpose of this permit:

   a. The term "process wastewater" means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. The term "process wastewater" does not include contaminated non-process wastewater, as defined below.

   b. The term "contaminated non-process wastewater" shall mean any water including precipitation runoff which, during manufacturing or processing, comes into incidental contact with any raw material, intermediate product, finished product, by-product or waste product be means of: (1) precipitation runoff; (2) accidental spills; (3) accidental leaks caused by the failure of process equipment and which are repaired or the discharge of pollutants therefrom contained or terminated within the shortest reasonable time which shall not exceed 24 hours after discovery or when discovery should reasonably have been made, whichever is earliest; and (4) discharges from safety showers and related personal safety equipment and from equipment washings for the purpose of safe entry, inspection and maintenance; provided that all reasonable measures have been taken to prevent, reduce, eliminate and control to the maximum extent feasible such contact and provided furtherthat all reasonable measures have been taken that will mitigate the effects of such contact once it has occurred.

   c. The term "twenty-five year, 24 hour rainfall event" shall mean the maximum 24 hour precipitation event with a probable recurrence interval of once in twenty-five years as defined by the National Weather Service in technical paper No. 40, "Rainfall Frequency Atlas of the United States," May, 1961, and subsequent amendments in effect as of the effective date of this regulation.

   d. The term "calcium sulfate storage pile runoff" shall mean the calcium sulfate transport water runoff from or through the calcium sulfate pile, and the precipitation which falls directly on the storage pile and which may be collected in a seepage ditch at the base of the outer slopes of the storage pile, provided such seepage ditch is protected from the incursion of surface runoff from areas outside of the outer perimeter of the seepage ditch.

   e. The term "daily average concentration" means the arithmetic average (weighted by flow value) of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample.

f. The term "daily maximum concentration" means the daily determination of concentration for any calendar day.

g. The term "weighted by flow value" means the summation of each sample concentration multiplied by its respective flow divided by the sum of the respective flows.

h. For the purpose of this permit, a calendar day is defined as any consecutive 24-hour period.

i. The term "mining effluent" shall mean any water that is impounded or that collects in the mine and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator. However, if a mine is also used for the treatment of process generated wastewater, discharges of commingled water from the mine shall be deemed discharges of process generated wastewater.

j. The term "mine" shall mean an area of land, surface or underground, actively used for or resulting from the extraction of a mineral from natural deposits.

k. The term "process generated wastewater" shall mean any wastewater used in the slurry transport of mined material, air emissions control, or processing exclusive of mining. The term shall also include any other water which becomes commingled with such wastewater in a pit, pond, lagoon, mine, or other facility used for settling or treatment of such wastewater.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

   Compliance shall be achieved on the first day of discharge.

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. MONITORING AND REPORTING

1. *Representative Sampling*

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. *Reporting*

Monitoring results obtained during the previous quarter shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on . Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the State at the following addresses:

Environmental Protection Agency
Water Enforcement Branch
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Florida Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

3. *Definitions*

a. The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

b. The "daily maximum" discharge means the total discharge by weight during any calendar day.

4. *Test Procedures*

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Act, under which such procedures may be required.

5. *Recording of Results*

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses:

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. *Additional Monitoring by Permittee*

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

7. *Records'Retention*

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the State water pollution control agency.

A. MANAGEMENT REQUIREMENTS

1. *Change in Discharge*

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. *Noncompliance Notification*

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

3. *Facilities Operation*

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

4. *Adverse Impact*

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. *Bypassing*

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Regional Administrator and the State in writing of each such diversion or bypass.

6. *Removed Substances*

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

7. *Power Failures*

In order to maintain compliance with the effluent limitations and prohibitions of this permit; the permittee shall either:

a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

b. Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. *Right of Entry*

The permittee shall allow the head of the State water pollution control agency, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. *Transfer of Ownership or Control*

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator and the State water pollution control agency.

3. *Availability of Reports*

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

4. *Permit Modification*

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. *Toxic Pollutants*

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. *Civil and Criminal Liability*

Except as provided in permit conditions on "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. *Oil and Hazardous Substance Liability*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. *State Laws*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. *Property Rights*

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. *Severability*

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART III

OTHER REQUIREMENTS

1. If corrective action is required under the provisions of Part III, 1.A. & 1.B. of NPDES Permit #FL0000655, Occidental will modify the gypsum storage and cooling pond facilities serving this plant to conform to the program resulting from Part III, 1.B., Permit #FL0000655.

2. Additional Conditions for "Removed Substances", (Part II, Sect. A, Para. 6)

   Within 180 days of anticipated gypsum pile abandonment, the permittee shall submit a plan for the elimination of the discharge of pollutants from the gypsum pile upon abandonment. Such plan for the elimination of the discharge of pollutants to the extent practicable shall specify the action the permittee will take with respect to the regrading of the gypsum pile.

3. State Certification - The State of Florida Department of Environmental Regulation has certified the discharge(s) covered by this permit with conditions (Attachment I). Section 401 of the Act requires that conditions of certification shall become a condition of the permit. The monitoring and sampling shall be as indicated for those parameters included in the certification. In the event of any conflict between the conditions of this permit and in the certification attached, the more restrictive shall rule.

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4. Within one year before initiation of discharge, permittee shall submit a plan of study for a one-year test program designed to utilize the low area northeast of the plant site (commonly referred to as Swift Creek Swamp) as a possible future treatment step. The purpose of this study would be to determine if by utilization of this area, the amount of pollutants discharged to Swift Creek, and ultimately the Suwannee River, can be lowered in an acceptable environmental manner. The plan shall include estimated discharge flow, pollutant concentrations and proposed monitoring sites. To determine the environmental effect on the "low area", the plan shall also include adequate background data for future comparison purposes.

If acceptable by EPA and the State, the plan shall be implemented within one year from initial discharge from the facility. Prior to implementation, the point of discharge for purposes of meeting permit requirements shall be defined.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30308

MAR 30 1978

Mr. W. W. Atwood
Occidental Chemical Company
P.O. Box 300
White Springs, Florida 32096

Dear Mr. Atwood:

Review of your November 25, 1977, application for a phosphate fertilizer chemical complex has been completed. On the basis of this review, we have determined that the conditioned operation of the proposed plant at the specified location will not violate the Class I or Class II air quality increments specified in the EPA regulations for Prevention of Significant Deterioration (PSD). Furthermore, we have determined that this plant will meet the federal regulatory requirement under PSD that Best Available Control Technology (BACT) be used to limit emissions of sulfur dioxide and particulate matter.

A request for public comment regarding the preliminary determination on the above application was published on January 27, 1978. No comments were received during the public comment period. Authority to Construct a Stationary Source is hereby issued for the facility described above, subject to the attached conditions. This Authority to Construct is based solely on the requirements of 40 CFR 52.21, the Federal regulations governing significant deterioration of air quality. It does not apply to NPDES or other permits issued by this agency or permits issued by other agencies. Additionally, construction covered by this Authority to Construct must be initiated by December 1, 1978.

Please be advised that a violation of any condition issued as part of this approval, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

Authority to Construct will take effect on the date of this letter. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Ray Cunningham, Chief, Air Strategy Development Section (404/881-3286).

Sincerely yours,

for John A. Little, Deputy

John C. White
Regional Administrator

Attachment

This Approval to Construct would be issued this date Feb. 27, 1978, but for the order entered in Environmental Defense Fund versus Environmental Protection Agency, No. 78-281 (D.D.C.). (entered on February , 1978.)

John A. Little